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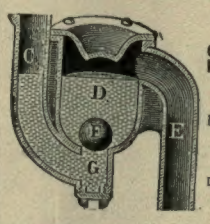

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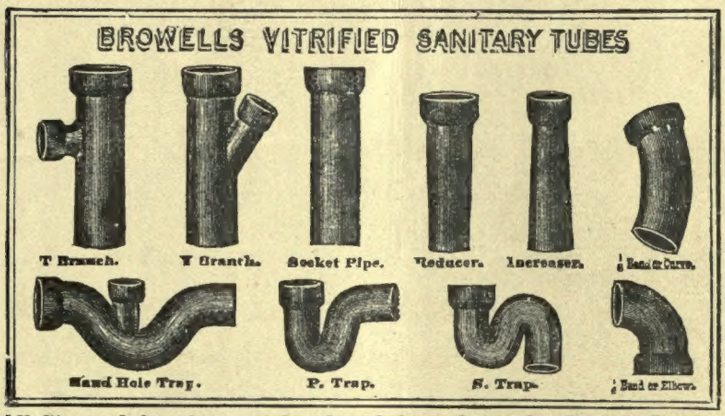

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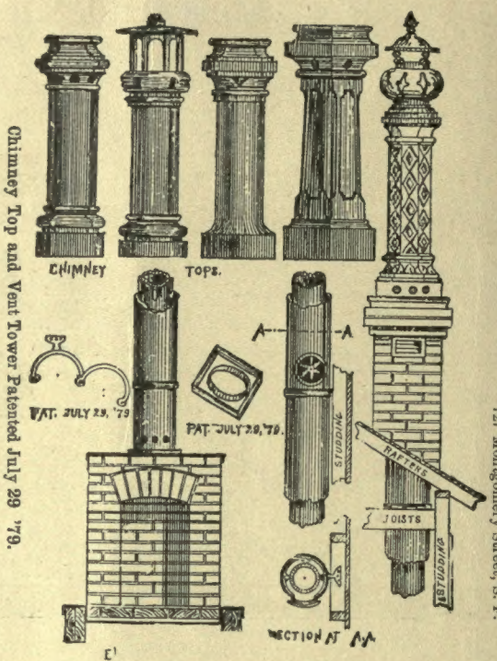

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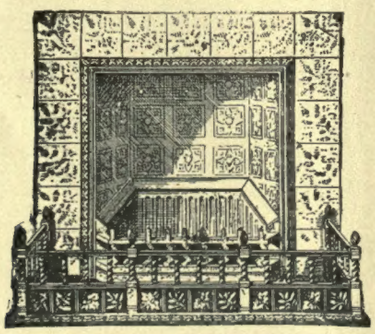

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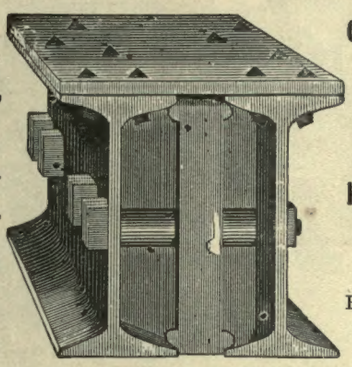

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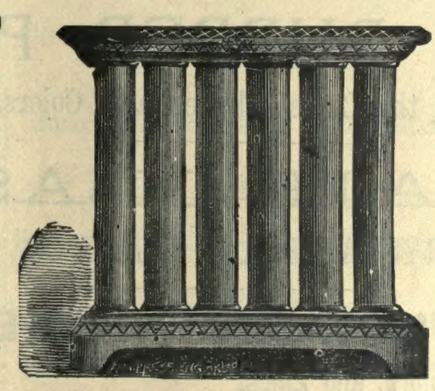

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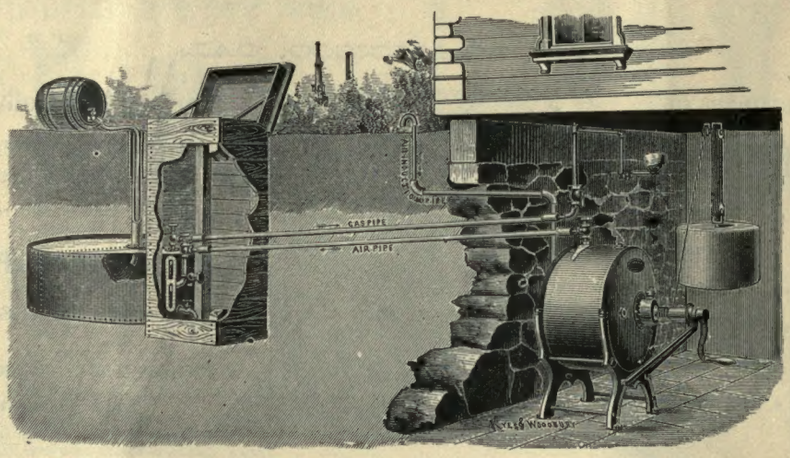

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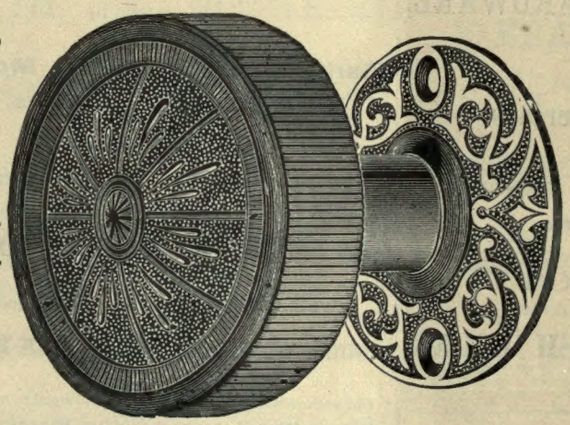

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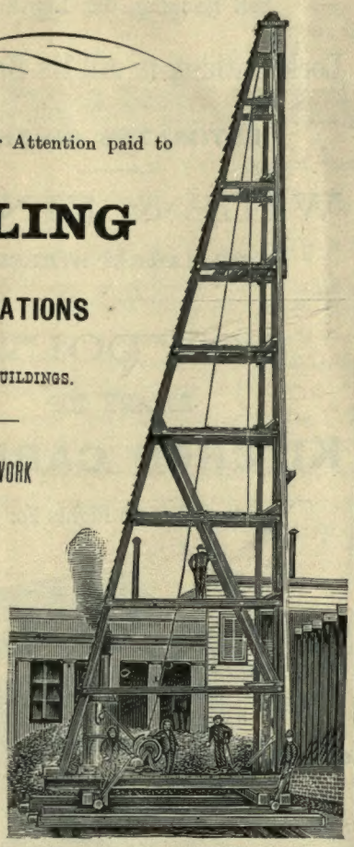

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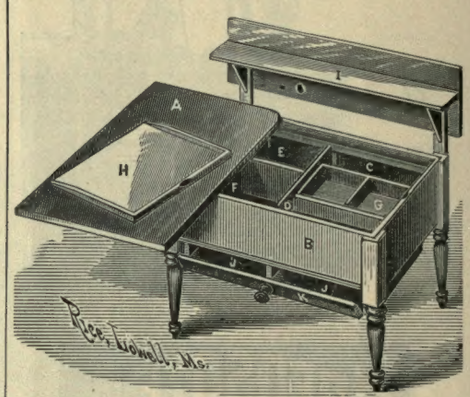

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THE

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Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, JANUARY 5, 1886

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WHOSE who labor to make human actions harmonize, find great difficulty in piecing them together and causing them to assume the same gloss; for in general they contradict each other in so strange a way that it seems impossible that they should have issued from the same workshop.—*Montaigne.*

When we truly and earnestly aspire to be, that in some sense we are; the mere aspiration, by changing the frame of the mind, for the moment realizes itself.—*Mrs. Jameson.*

One principal point of good breeding is to suit our behavior to the three degrees of men—our superiors, our equals, and those below us.—*Swift.*

Rectitude is the first law of the gentleman: When he says "Yes," it is law; and he dares to say the valiant "No," at the fitting season. The man of rectitude will not be bribed, it is only the low minded that sell themselves.—*Smiles.*

Science has been well defined to be knowledge reduced to order; that is, knowledge so classified and arranged as to be easily remembered, readily referred to, and advantageously applied.—*C. Davies.*

The Year Begins Well.

SUMMARY OF BUILDING INTELLIGENCE FOR JANUARY, 1886.

62	Frames, total cost	$265,150
4	Brick " "	247,000
13	Alterations and additions	111,100
79	Total cost	$623,250

FOR SAME MONTH IN 1885.

62	Frames, total cost	$236,850
2	Brick, " "	314,000
9	Alterations and additions	39,300
73	Total cost	$590,150
	Less errors in published statement, Jan., 1885	12,435
	Correct totals for January, 1885	$577,715

By the above it will be seen that the building activities for the month ending with present issue leads the same period of 1885 by $45,535.

Its Seventh Volume.

WITH present issue commences the seventh volume of this journal as a monthly, and its eighth, including the quarterly of 1879. As will be noticed, the enlargement, commencing with present number, increases the length of the book two inches, thus adding 576 inches of additional printed matter each month, the number of pages being as heretofore, thirty-two.

Early in its history it was recognized, and by action of San Francisco Chapter confirmed as the official organ of the profession on the Pacific Coast, which enviable recognition it continues to enjoy, and no effort in the future, within possibilities, shall be wanting in rendering it worthy of that distinction.

Situated as we are, far distant from the great principal centers of commerce, manufacturing, building, and other great interests and enterprises of the country, and at the extreme westerly terminus of communication across the American Continent, with not a foot of territory between us and the setting sun, short of the shores beyond the broad waters of the Pacific Ocean, other than the intervening islands; with mountain ranges and vast spreading, barren plains, separating us from advantages at easy command to all our Eastern contemporaries; with entire lack, or high cost of many facilities and things necessary in making up an acceptable journal, its great success is phenomenal.

Sir F. Buxton has well said: "The longer I live, the more I am certain that the great difference between men—between the feeble and the powerful, the great and the insignificant—is *energy*, invincible determination, a purpose once fixed, and *death or victory*. That quality will do anything that can be done in the world, and no talent, no circumstances, no opportunities, will make a two-legged creature a man without it."

It was the spirit of the above quotation that influenced the founding of *this*, the first journal published upon the Pacific Coast, in the interest of architectural and building sciences, and that too under the most forbidding and unauspicious circumstances and conditions, within and without—has sustained it, lo, these seven years, and will be its inspiration in the years to come.

Whatever of abilities or talent may have been lacking in the past, there has been no absence of honest purposes and desires. The great ambition has been to establish permanently, a class publication devoted to the interests represented in this journal, and such has been accomplished to an extent magnificently beyond the expectation of thousands who, in the days of its beginning, doubted the possibility of permanency. But it has been done, and, all things considered, fairly if not handsomely done, and, although "the future is a great land, a man cannot go around it in a day, cannot measure it with a bound, cannot bind its harvests into a single sheaf, and is wider than the vision, and has no end," its hopes inspire and its promises encourage earnest, persevering effort, the fullest developing possible of which the patrons of this journal may expect to realize during the year just entered upon, of which the present issue is the representative number.

Wishing happiness and prosperity to one and all of our kind readers, we ask a return of the consideration, in a renewal and continuation of subscription and advertising patronage, and the generous support that has heretofore come to us from all quarters.

Lien Law Decision as to Proper Time of Filing Lien.

THE Supreme Court of California has rendered an important decision in the case of Perry, Woodworth & Co. *vs.* Brainard, which definitely settles a feature of the lien law which has been a subject of innumerable disputes, some holding that the maturity of claim, by delivery of materials, or the completion of a sub-contract was sufficient without regard to the completion of the building or works; an error also entertained by lawyers not well posted in this department of legal practice, as was manifestly the case with the legal minds who advised and misled the plaintiffs in the above action to file a lien

prior to the proper time, and then further inducing their clients to reject the common-sense and logical decision of the Superior Court Judge, and still further advise an appeal to the court of last resort, only to meet defeat and heavy cost, which in such cases are generally considerably weighty.

The decision of the lower court was that the lien sought to be enforced by the action had been filed *prior to the completion of the building*, and was therefore prematurely filed. Such being the case, judgment was rendered in favor of the defendant and against the lienors. This not being satisfactory, the case was appealed to the Supreme Court, which tribunal confirmed the judgment of the Superior Court.

In support of the decision, Justice Ross—Justices Myrick, McKee, Sharpstein, and Thornton concurring—quotes from the lien law: "Every original contractor within sixty days after completion of his contract, and every person save the original contractor, claiming the benefits of this Chapter, must, within *thirty days after* the completion of any building, improvement, or structure, or after the completion of the alteration or repairs thereof, or the performance of any labor in a mining claim, file for record," etc., and make the "within thirty days after completion," the groundwork of the decision. Other cases of similar import are mentioned, denying the existence of "privity of contract between the owner of the building and the sub-contractor, but the sub-contractor's rights are based simply and solely upon his contract made with the contractor."

The decision further says, by the contract, the owner agrees to pay a certain sum and "this sum is a fund which may be held under the statute for the payment, *so far as it will go*, of all the various sub-contractors, for work and materials furnished by them to the contractor, who is the principal and head of all; and all the parties entitled to payment or contribution out of this fund should be able to reach the fund and get their *proportionate shares*." "One contractor ought not to be able to reach this fund and appropriate it to the extent of his claim before another sub-contractor should reach it, for if the fund *should not be sufficient* to pay the claims of all the sub-contractors, then each should be paid only a *proportionate share thereof*." "The amount of all the claims of all sub-contractors can be ascertained only after all the work and materials have been furnished, and after the building has been completed, so far as the contractor is required to complete the same; for the whole of the work may in fact be done by sub-contractors only, or the last item of work performed or materials furnished may be performed or furnished by a sub-contractor. The building in such a case will be completed by a sub-contractor, and the sub-contractor completing the building or furnishing the last item of work or materials therefor, is entitled to his proportionate share of the general fund, equally with the sub-contractor who furnished the first item of work or materials, or any intermediate portion thereof."

Building Prospects—1886.

As a matter of course, all statements reaching beyond the present hour, are more or less speculative and hypothetical. But well trained human judgment may safely venture to step a little beyond the limits that hold the future in abeyance, and surmise the probabilities that are to be. The past and present are the measures by which the future may be measured and weighed, and upon which results yet unborn may reasonably be predicated and predicted.

There have been but few years since the organization of this State, in which all the conditions have been more favorable at the commencement of the year, for general prosperity throughout the State.

Timely and abundant rains have gladdened all hearts, in cities and country districts, and the common feeling everywhere prevailing is buoyant and cheerful. Large crops and harvestings are confidently anticipated, and the promise of abundance in all directions seems assured. As a natural sequence, confidence and hope abound in all circles of active life, and the opening of the year 1886 is full of prospective blessings.

Among the prominent good influences affecting and producing this desired state of things, is the turn matters have taken in regard to the Chinese labor question. The monster evil had settled down in our midst, taken strong root, and was fast sending its tendrils into every field of labor, trade, and commerce, until it became bold and defiant, and put forth its shoots in an arrogant strike, demanding the discharge of white men, and asserting the Mongolian right to control at least the cigar manufacturing trade. The serfs and slaves of the six companies felt that they had their fingers firmly fixed upon the throat of labor, with power to crush out all opposition, and master the situation. But the daring, aggressive move made was a grand mistake against the invaders of labor rights, and resulted in the overthrow of a gigantic Mongolian combination. And the outlook to-day for Chinese labor is more gloomy to them than it has been at any period in the history of the State.

The feeling inspired by the results in this connection is of the most pleasing character, and one of the immediate effects is the substitution of several hundred of our own race, some of them with families, as permanent, congenial fellow-citizens, instead of a like number of human beings having no sympathy with the laws, institutions, or welfare of our common country, beyond the mercenary purposes and perversions ever present with that people.

These facts in this connection are material only so far as they bear an influence upon the future of San Francisco, which they do in this wise: that every white person added to population, as against a Chinaman, is a gain in a general sense, as each individual so added becomes a consumer of American product, while the Chinaman spends nothing that can be saved and carried away to his foreign home.

But the more desirable feature of the case is the influences that flow from this improved condition of things; the healthful feeling incited, not only among the working people, but among employers and manufacturers, who feel a relief in the break that has been made, which foreshadows a redemption from the thraldom that has rested upon them, and the prospect of freedom from that cruel competition which so sternly threatened destruction to honest white effort in legitimate pursuits.

Following the movement of the cigar-makers will be the other branches of manufacture, so much demoralized by the invading hordes of Chinamen. The boot and shoe trade, from men and women's fine work, down to common slippers, is largely in the hands of Chinese operatives, and together with many other branches of manufacture, demands the pruning knife of reformation. And as one by one, the white men, girls, and boys reassert their rights to perform such labor, and purify the present polluted streams of operations, a more healthful state of affairs will arise, and, with the Mongolians gone, a bettered condition of things will come to pass, and brighter skies will span the heavens of manufacture and labor upon the Pacific Coast, and lead to numerous building improvements.

All this foreshadows the better future, and points to increased wealth among the working classes, and increased demands for white men's homes. Aside from all this, with the large amount of building done during the past five years, there are comparatively few houses to rent. This fact presents encouragement, and with the low price of all kinds of building materials, and the abundant supply of mechanical labor, it is fair to anticipate a prosperous year in building pursuits.

Without committing the unwarranted error indulged in by some of our daily contemporaries, of inflating prospects by statements of "contemplated work," much of which, as published, not likely of consummation, we may state the assured fact that a goodly number of plans are in preparation in architects' offices, and the outlook for spring is good.

Royal Institute of British Architects.

The journal of proceedings is regularly received at this office, and contains much of interest, as showing the earnest interest taken by the members in matters pertaining to architectural sciences. The fact cannot be successfully controverted that all such organizations, properly conducted, are a source of special profit to every active member, of general benefit to the profession, and from which the building community derives great advantage.

Stand by the California Journal; Besieged But Not Dismayed.

Within the past sixty days, the Pacific Coast cities and towns, especially San Francisco, have been *fairly flooded* with thousands of sample copies of Eastern class journals. They have been sent from every section of the United States where such journals are published, done up in best possible style, and with every attention to appearances, so as to render them attractive, and catch subscribers.

A host against one. Singly and alone, we are called upon to combat this mighty avalanche of competition—this well-drilled and equipped host of competitors, who come not with modest mien awaiting a welcome, but with bold effrontery and aggressive strides, entering not only workshops, offices and business places of all kinds, but private residences, soliciting

patronage and support, and seeking to allure to their subscription net all who can be reached through the devices incorporated in Christmas numbers.

Unparalleled efforts. The number of Eastern journals represented this year, and the mass of sample copies distributed, exceeds, ten times over, those of any former year, from which it is fair to infer that heretofore California has been considered an unpropitious field, or the recognized great success of the CALIFORNIA ARCHITECT AND BUILDING NEWS has influenced a changed sentiment toward this coast among our contemporaries, who, after having failed for so many years to adequately supply the wants of the Pacific States in class literature, are now generously willing to divide with us the crop produced from our planting.

Overdoing. If each succeeding year from the present time shall continue to develop corresponding increase, enlargement and improvement in class journals, that has characterized the past five years, a full decade of years will not have passed ere their patrons will receive monthly issues as large as Webster's Unabridged.

Don't understand. Eastern contemporaries may not be able to comprehend the situation, because their pathways lie through much larger and broader fields, where competition is scattered through scores of adjacent States; but the dumping down in San Francisco of several tons of "sample copies," makes a very decided impression upon the "sample copy" market, and floods it. *But* "he that wrestles with us strengthens our nerves, and sharpens our skill; our opponent is our helper." So we consider it, and not only propose to hold our own in the face of the avalanche of interlopers, but to so far excel them in supplying a journal specially adapted to this coast, that their presence will be *eminently immaterial.*

Support the home journal. Every individual in any manner id entified with, or interested in building matters, whether as architect, owner, contractor, material men or otherwise, should subscribe for this journal.

The Cohesive Strength of Stone.

IN all cases which have come within my notice, the stone possessing the least cohesive strength, or that which will crush with less pressure than any other, is nevertheless strong enough, when once fixed, for almost all practical purposes. No architectural members have to sustain greater pressure, in proportion to their size, than the mullions of large Gothic windows. The tracery in the great north window of Westminster Hall is now executed in Bath stone, which is remarkable for having the least cohesive strength of all the specimens experimented upon and described in the report on the stone for the new House of Parliament. Some of the mullions of that window are less than 9 inches wide and more than 50 feet high, sustaining not only their own weight, but also the whole of the tracery beneath the arch.

The eastern window of Carlisle Cathedral, built of a friable red sandstone, is 50 feet high; the mullions are smaller and the tracery much heavier than in that at Westminster, yet in neither of these examples are there any symptoms of crushing. The cohesive strength of stones is never more severely tested than during their conversion by workmen from the rough state to being fixed in their final situation in a building. During these operations, iron levers, jacks, lewises, and various other implements, are applied, frequently without judgment, and with but little regard to the mechanical violence which a stone will bear; therefore, it may be considered a useful practical rule that, however soft a stone may be, if it resists the liability of damage until out of the mason's hands, there can be little doubt of its possessing sufficient cohesive strength for any kind of architectural work.—*C. H. Smith.*

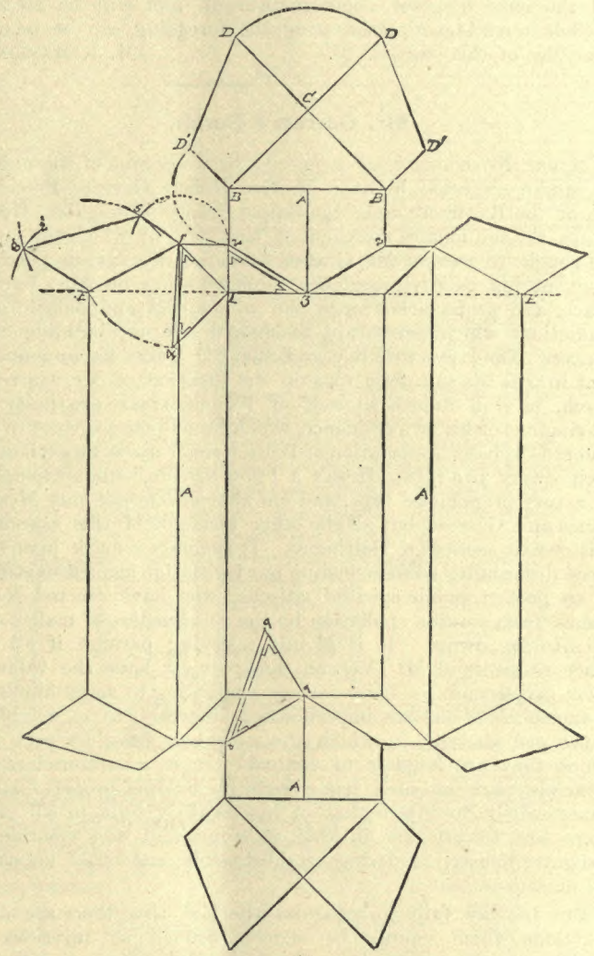
A Graphic Illustration of Roof Framing.

THE following article introduces to the readers of this journal a contributor well and favorably known upon this coast, and in many of the Eastern cities, as one possessing special abilities in the delineation and exemplification of acute and difficult geometrical, mathematical, and mechanical problems, in domes, roof framing, ground arches, and constructural works generally. His monthly contributions will prove instructive and valuable to every architect and mechanic.—ED.]

A GRAPHIC DESCRIPTION AND ILLUSTRATION OF THE METHOD OF STANDING HIP AND VALLEY RAFTERS IN POSITION OVER GROUND PLANS.

Although the science of roof framing and kindred mechanical sciences have for generations received the attention of hundreds of able minds, its simplification is still a matter to be more fully developed. Innumerable methods have been introduced, many of which possess merit, and must be regarded as good. The object of the present and succeeding articles is not to set aside any of the good things done in the same line, but to still further assist in rendering plain, and simplifying, to the clear understanding of the most ordinary mechanical intellect, the matters treated upon.

The method of determining the length and cuts of the members of a structure, by the air of "graphic" diagrams, is practical, accurate, and reliable, and commends itself especially to the student of architectural, engineering, and mechanical sciences. By its simplicity and conclusiveness, and the absence of technical phrases and algebraic symbols, the uneducated and less learned cannot fail, with but little study and application, to understand and comprehend its intricacies.



The usual process of calculation when applied in detail, becomes laborious and wearisome even to the professional mind. Hence the ease and accuracy with which the general result is reached by the graphic method, commends itself even to the less cultured, as superior to any system that requires long calculations and mental effort. The method of graphic diagrams offers better facilities—those denied by the more complicated principles—and enables the reaching of results by a simpler and less difficult process.

Explanation: Draw ground plan, A A A A; draw the elevation, B C B; square out from the back of the common rafter, B C, both sides, C D and B D, as shown; take B 2 in the compass, describe the curve, 2 D, cutting line, B D. Now take the distance A 3, line from face of gable to line of deck on the level; set compass to the distance A 3, and stand in C with it, describing the curve, cutting the lines squared from the back of common rafters, at D D; connect D D^1; now we have the length of valley rafter to stand in position over 2 3.

Now to get the length of timbers and cuts in the deck of the building, continue the deck lines, E E; make a seat line, 1 1; square up to 4; 1 to 4 is the height of elevation; 4 ^{1}1 is the length of deck rafter; take the distance ^{1}1 4, and describe curve, cutting deck line at E; ^{1}1 E is the length of rafter to stand in position over 1 ^{1}1. Now we come to the more difficult part of the cuts to be found. Examine the ground plan, and connect the line 2 1, and square up to 3; make 1 3 equal to the height of the elevation; now take 2 3 in the compass, and stand in E with it; describe the curve, X X, from E; now take another compass, and take the distance ^{1}1 2, and from ^{1}1 describe from 2; cutting curve,

X X, from E, the point now found, 5, is an important one, as it finds the direction and lean of timber when in position.

Now to find the point 6 is all that is needed to get at all of the cuts and lengths of timbers; move to the other end of plan; draw line, 7 8; square up to 9, 7 9 being the height of elevation; connect 8 9, and take it in the compass; come back to 5; stand in 5; describe curve, cutting at 6; now take the distance 1 3 in the compass, and stand at E and draw the curve 2 2; when they cut at 6, connect E 6; then 6 E is the distance that will lay level in position over 1 3 in the ground plan. Repeat that same rule on the four corners, and cut all around the outside edges; hinge and stand up, and you will have a model showing every timber in position. Weaken with the back of a knife or compass, on each hinge line, and stand up on the ground plan line; cut all around the outside of the figure, and there can be no possible mistake. In the next diagram another form of roof will be treated. Models in card-board, illustrating the foregoing, can be seen at the office of this journal. M. J. Marion.

Mr. Garrett's Porch.

In our November issue we gave a brief account of the unfortunate litigation between Messrs. Robert Garrett, President of the Baltimore and Ohio Railroad, and his neighbor, Henry Janes, the millionaire merchant of that city, by which the latter has sought to prevent Mr. Garrett's erection of a certain porch in front of his palatial residence, now building on Mt. Vernon Place; and we remarked upon the ambiguities and puerile contradictions which are so apt to characterize our building ordinances. The latest intelligence is that Mr. Janes has announced, that in case his suit fails to stop the erection of Mr. Garrett's porch, he will relieve himself of its obnoxious proximity by moving out of his own residence, which he will then donate to the Colored Orphans' Association of Baltimore for use as an asylum for their dusky *proteges*. Here's a "how-d'ye-do," unquestionably, of a very pronounced type, and one that affects not only Messrs. Janes and Garrett, but all the other residents of this especially aristocratic section of Baltimore. It suggests remark upon the great desirability of so amending our legislation against nuisances as to protect public-spirited citizens, who have erected costly homes, from wanton spoliation by the recklessness or malice of a neighboring owner. It is plainly a crying outrage if all the other residents in Mt Vernon Square must have the value of their investments in that section, amounting to many hundreds of thousands of dollars, imperiled by a quarrel between neighbors Janes and Garrett, in which the neighbors have no part and which they are helpless to control. It is a well-understood principle that no man has a right to use his property so as unnecessarily to injure that of his neighbor, and in all cities there are laws which in this view prohibit the erection of slaughter houses, rendering establishments, and other unhealthful nuisances.

But the law fails to recognize the fact that there are many erections which cannot be strictly defined as injurious to health, which yet destroy the value of adjacent property just as completely. Such is the case above cited. If Mr. Janes establishes his colored orphan asylum next to Mr. Garrett, the result cannot fail to be a disastrous depreciation in all the property on Mt. Vernon Square. In St. Louis, recently, a livery stable proprietor drove a profitable trade for several years by purchasing lots in a choice residence section and advertising his purpose to build a stable there. In a number of cases he was bought off only by the payment of a large bonus from the adjacent property owners, whereupon Mr. Russell would immediately select another lot and repeat the transaction. For a while this fellow established a sort of reign of terror among property holders in the finer parts of the city and earned the title of "livery stable fiend," and he recently had an imitator in Chicago. Of course we cannot here outline the necessary enactment to protect the community from such outrages, but it will doubtless provide for a considerable enlargement of the definition of the term nuisance so as to cover injury to property as well as to health.—*Inland Architect and Builder.*

Toughening Timber.—An exchange says: It is claimed that by a new process white-wood can be made so tough as to require a cold chisel to split it. The result is obtained by steaming the timber and submitting it to end pressure, technically "upsetting" it, thus compressing the cells and fibers into one compact mass. It is the opinion of those who have experimented with the process that wood can be compressed 75 per cent, and that some timber which is now considered unfit for use in such work as carriage building, could be made valuable by this means.

Real Estate Transactions, 1885.

Nothing more clearly indicates the degree of prosperity prevailing in any city or locality than the number of real estate transactions, and the prices paid for building lots and land, under a well-balanced market uninfluenced by either depressed or excited conditions.

The real estate circular furnishes the following items of facts: Sales in 1884, 3,874; value, $13,374,207. In 1885, 3,650; value, $13,250,000. City hall lots have increased in value, twenty per cent within twelve months, the present prices being from $850 to $1,000 per front foot, for a depth of one hundred feet. The cable road street-cars have been instrumental in retarding increase in values in the older districts of the city, and increasing those in the outlying sections, where, a few years ago, and until the extension of the cable roads, they remained at nominal prices. The difference in time required to reach localities ten blocks beyond the old limits is a matter of small consequence, requiring less than one minute per block.

Two years ago a lengthy article appeared in this journal, advising the immediate improvement of all lots on Market Street, inside of Ninth Street, with substantial first-class buildings. If this had been done, there would now be clustered around the city hall center, the natural centering point in this city for large retail stores for generations, if not for all time, one hundred or more prosperous business firms. All this is destined to be at a not remote period. The pioneers in this direction are the new Odd Fellows' Hall, with its fine stores, and the Murphy Building now occupied by one of the most enterprising and progressive dry goods firms in the city. The three-quarter million dollars spent in the erection of these two edifices simply reflect the character of future improvements in that neighborhood; in fact, those who own property having a market value of $1,000 to $1,500 per front foot, cannot afford to do less than erect very fine, *first-class* structures.

Mr. Magee, of the *Circular*, most excellent authority in all matters connected with real estate, says: "All of Market Street, as far out as Valencia, would now be fine retail store property, if the owners would only build suitable stores on their land. The city hall lots should have been built on five years ago." So it was strongly urged and argued by us two years ago, and we appreciate endorsement from Mr. Magee, even at the present time.

It is but a matter of time when this will be done, and business pushed *solid* out to Ninth Street. "Out to Valencia Street," about four blocks further westerly, might properly be improved with frame structures to last a few years and then give way to more permanent buildings.

Business for architects. The foregoing foreshadows future prospects for architects. Even the older portions of the city present a large field of work to be done in the removal of old and worn-out buildings, and the substitution of new edifices of greater or less cost; in addition to which will be all the growth in residence improvements which follows business enlargement and progression, and the erection of large brick buildings on principal streets, will necessarily stimulate improvements on all cross and adjacent streets, and in neighborhoods where some must locate to obtain lower rent rates.

Fall of a Brick Wall—One Man Killed.

While the December number of this journal was being worked off, a rather sad affair happened on Seventh Street, in the city of Oakland, resulting in the death of a human being, who was standing idly upon what proved to be a fatal spot.

A brick building, twenty-two feet frontage, and three stories in height, was in course of construction, and so far advanced as to be up to the level of the third-floor joist. A cast-iron girder was placed at the proper point to provide for the store front openings. About the girder, and resting thereon, were the two side wings or sections of brick-work, the center portion of the front wall being omitted to provide for building a bay-window through each story, twelve feet wide.

Without any sign or warning, the iron girder dropped to the ground floor, and with it fell in a mass all brick work resting on the casting, and a portion of the westerly wall, the easterly wall being a party wall. The man killed was standing directly under the girder and front wall, at the time of the occurrence, and was badly crushed.

There are two reasonable accountings for the let-down: one, that the girder was defective, and yielded under the superincumbent weight placed upon it; the other, that the

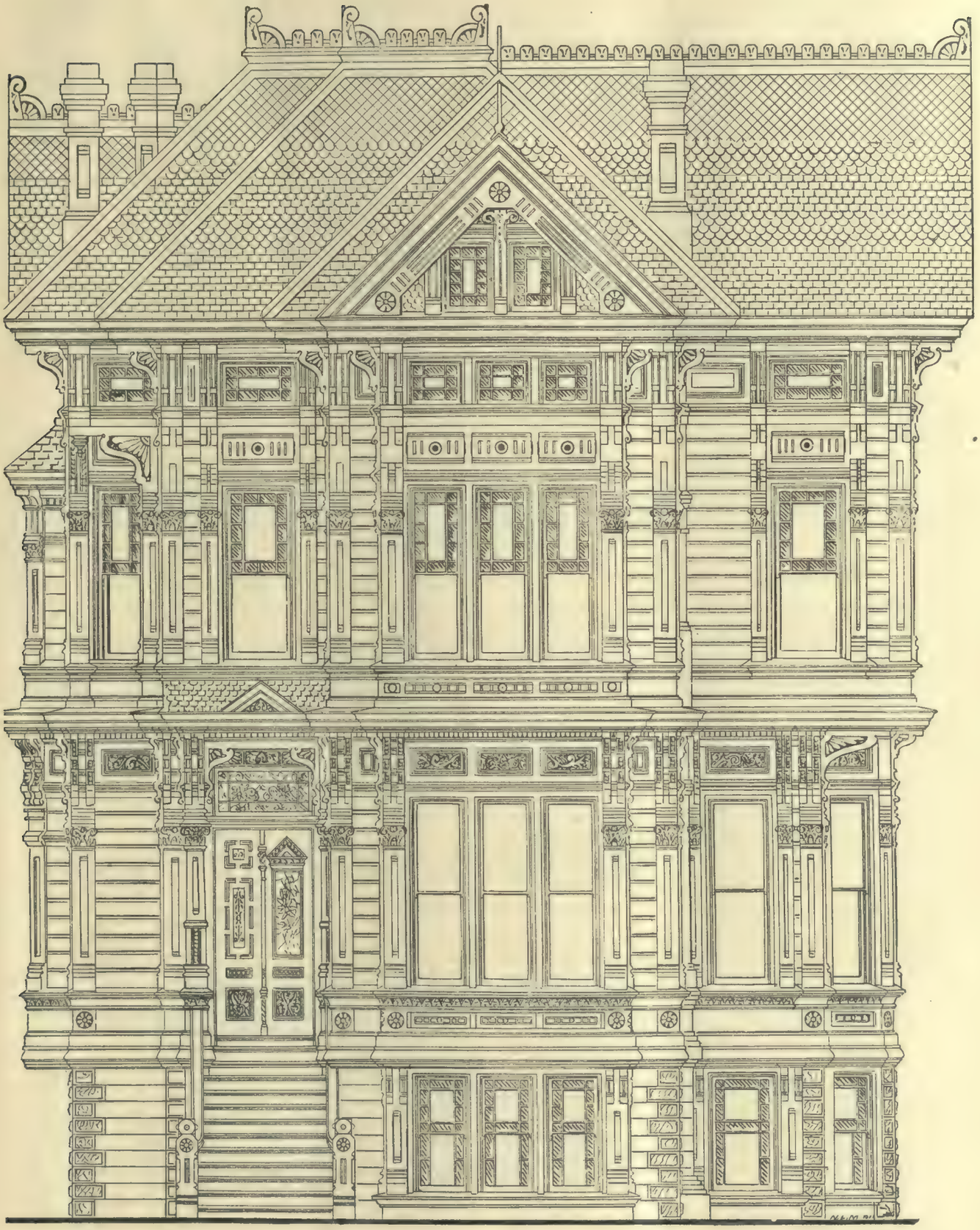


PLATE I.—FRONT ELEVATION.

brick seating on which the westerly end of the girder rested, gave way, owing to the soaked condition of the bricks from the heavy rains, and the soft mortar in the joints, the cement in which had not set sufficiently to produce any hardening effect. The wall that fell, facing the heavy rains then so copious and continuous, very naturally kept the new brick work very tender, and added greatly to the general weight; and it is altogether likely that the secret of the tumble was in these suggestions.

The girder was defective, in that there was a flaw in the bottom plate, which, although 1½x14 inch, was rendered of no value by the flaw. But the center rib, 1x24 inch, with a top or crown flange, 1x5 inches, was more than sufficient to carry safely all the load imposed, with no more than five feet of front wall at the sides of the building.

S. F. Chapter of Architects.

OWING to the regular meeting night falling on New Year's, no session was held for the month of January. It is to be hoped that the members of the profession will re-double their interest in the Chapter work the current year. There are possible results which should call forth the united energies and efforts of every architect upon the Pacific Coast.

Commingling and friendly intercourse is necessary to a healthful life, and every hour spent in developing that which may be attained by fraternal association is as seed sown in good ground.

Self-preservation, if no higher purpose, should induce every reputable practicing architect to unite in right effort to preserve the integrity of the profession, which of late years has suffered so much from the innovations of the scale bugs, teredos and other ruinous and destructive professional insects.

P. S. A called meeting of the Chapter was held on the 8th, but being out of the regular order of time, but few were present. After reading of minutes, ordering payment of bills, and receiving the application of Mr. Seadler, of Sacramento, to become a fellow, the Chapter adjourned to meet the first Friday in February.

Nature and Art in Arboriculture.

IT does not need the arguments of Hazlitt to convince anybody who will give five minutes' consideration to the subject," remarks the *Daily News* of Monday last, "that we have no source but nature from which to borrow ideas of real beauty, and nature never yet gave us a single example of a flower-bed laid out with geometrical figures, or a flowery bank cut up by zigzags and straight lines. Nature abhors a straight line almost as much as she does a vacuum, and all her operations in woods and fields are a perpetual protest against formal regularity. No doubt, it is our right and our privilege to prune and pinch, to tie and train 'the growth of the luxuriant year,' and if we insist upon it, nature will fall into line, but only under protest. We may plant and prune as we please, but if we want really beautiful effects, we must, after all, be guided by the principles on which nature works in all her loveliest achievements. 'The art itself is nature,' as Shakespeare profoundly expresses it, and we must conform to nature's laws, or all the beauty we shall attain to will be of a bad and bastard type, however much we may admire it for a time. It will be but of the type which Pope so neatly satirizes when he speaks of the garden where grove nods at grove, each alley has a brother, and half the platform just reflects the other. This is the journeyman artificer's style of garden planning—the cunning of the compass and the straight edge. We have had enough of this sort of thing and are tiring of it. What we want is a new style, in which the freedom and irregularity of nature are combined with the neatness and order that should characterize the garden plot—the order which is Heaven's first law, not the order which delights in clipping shrubs into exact spheres, which always will have tulips planted in beautiful straight lines, and exactly so many inches apart, and which year after year has, for the sake, we suppose, of a neat and orderly appearance, nipped and clipped all our embankment planes into sprouting scaffold poles, utterly destroying the natural characteristics of these fine free-growing trees. The 'mixed border,' as at present managed, is not altogether satisfactory, though it is pretty safe to predict that it will be in the direction of the mixed border combined, perhaps, with the massing of color shown in the formal beds that future developments of flower-gardening will be effected. We have in some of our parks and public gardens many an odd corner in which nature and art are combined with exquisite effect; but as yet these odd corners are the minor features of our public gardening, and stars and garters, stripes, circles, squares, gridirons, bootjacks, and hot-cross buns, are still predominant, and very often they are worked out in colors that strike the cultivated eye as the squeak of an ungreased wheel assails the ear. Now is the time to brood over these things, and plan something better for the ensuing year."—*Timber.*

Science of Architecture.

[Special for this Journal. By F. Hillert, Architect and Mechanical Engineer.]

(Continued.)

THE purpose of the expansion apparatus is to take the increased volume of water, increased by the expansion capacity of heat. For the size of the apparatus, see the same for water heating, which is located at the highest point of the arrangement. Since the water is heated to 200° *celsus*, the highest point must be closed. By reason of this condition the expansion apparatus is a pipe closed and filled with air (expansion pipe), or is a suction and compressing valve (expansion valve) surrounded and closed in by the expansion reservoir.

The expansion pipes have a width of 60 to 70 mms. ($2\frac{5}{16}''$ to $2\frac{11}{16}''$), and its length is from $\frac{1}{40}$ to $\frac{1}{50}$ of the whole string of pipes. The expansion pressure valve must be so loaded by weight (inclosed in the reservoir) that at a pressure of about 15° atmospheric the same opens, and the expanded water by heat flows into the reservoir; the expansion suction valve at the cooling of thearrangement permits the water (contracted in the pipe) to run in and fill up the system from the reservoir.

III. MEAN OR MIDDLE PRESSURE WATER HEATING.

This system can be deducted from the warm (low pressure) water as well as from the hot (high pressure) heating.

From a warm water (low pressure) heating arrangement a middle pressure heating can be made, when, as in the high pressure heating, the highest point of the pipe is closed by a pressure valve, furnishing the possibility of heating the water above 100°.

From a high pressure heating apparatus we obtain a mean pressure heating arrangement, so soon as the first is calculated, that the required heat in the room is so arranged that the water in the fire-coil is not heated above 120°.

The advantage which the warm water middle pressure heating apparatus has over the warm water low pressure arrangement is in the somewhat smaller first cost. The disadvantages are, in the higher pressure all the parts have to sustain by the insertion of the pressure valve.

The advantage which the middle pressure heating apparatus has over the high pressure, consists in the smaller tension in the fire-coil, and in the lower temperature of the water, giving a milder and less strong radiating heat, a larger reserve of hot water. The disadvantages are only in the first higher cost of the arrangement.

Apparently, in general, for warm water heating the form of low pressure is the most recommendable, and for hot water heating that of mean pressure.

STEAM HEATING.

The same depends on the extraction of the so-called latent heat of the steam. In a similar manner, as with water heating, steam is conducted to heaters placed in rooms to be warmed. In the heater the condensation of the steam to water sets free the latent heat to be given over to the walls of the heater, and by the same distributed to the surrounding air.

The important parts of the steam heating arrangement are: (*a*) the steam boiler; (*b*) the conducting pipes for the steam and for the condensed water; (*c*) the condensation apparatus.

The steam boiler for steam heating is constructed on the same general principles as a steam boiler for industrial purposes. Important for boilers for heating purposes is the volume of water and the tension of the steam. The first (water) is selected in large quantities, since the use of steam is very irregular. The use of steam is large at the starting of the heating, before a constance of heat distribution in the system is arrived at. Tubular boilers are, in general, less to be recommended than smoke-flue boilers Under certain conditions it may become necessary to use tubular boilers, which may be the case when the same is placed under rooms which are occupied, a municipal regulation forbidding the putting up of common constructed boilers in such places, which may be avoided by using the tubular boiler (so-called inexplosives). They all agree in this respect, that, through the small quantity of water and steam in them, a considerable large damage by explosion is excluded.

The use of such boilers calls for a very careful attendance, and a larger measure of water-feeding capacity, since by the small volume of water in the tubular boiler and the large

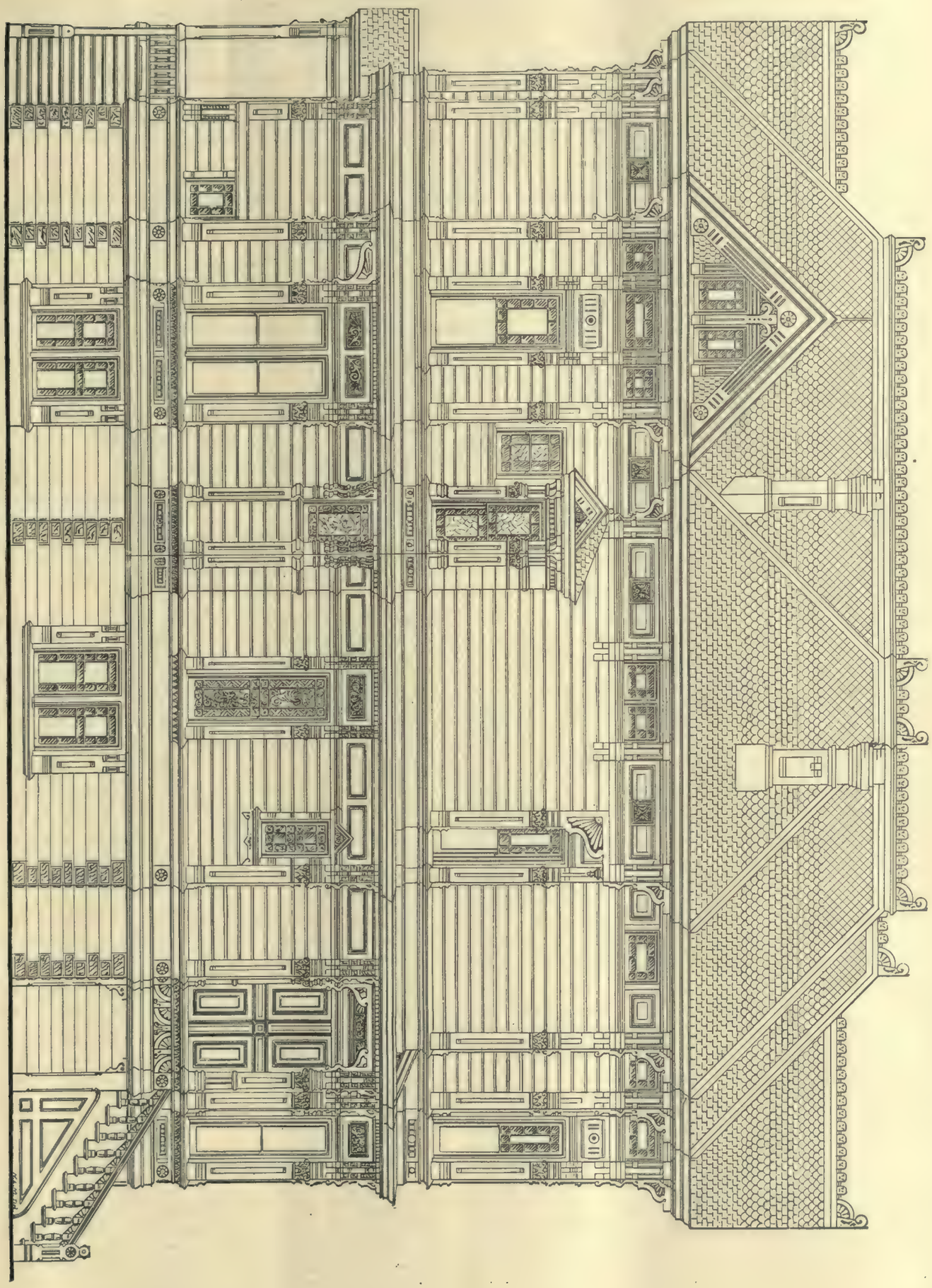


PLATE 2.—SIDE ELEVATION.

heating surface of the same, it may happen, at the beginning of the firing, to be impossible for the feed-pumps to supply—by the fast creation and use of the steam—the loss of water in the boiler as fast as required.

The feed apparatus for tubular boilers, according to those circumstances, have from two to three times the capacity of those for boilers with a large quantity of water.

For the pressure in the boiler, if possible 3 to 4 atmospheres can be taken; for pipes and heater, not above 2° atmospheres. The reduction of the pressure is made by a so-called reduction valve. For feed water for the boiler the condensed water of the heaters should be used as much as possible.

In the disposition of the steam conducting pipes special care must be taken to avoid a cooling off of the pipes as much as possible, and the condensation water to run off with the direction of the steam. The best manner is to lead the steam in a main pipe direct to the highest point of the arrangement, and from there conduct the same by the shortest route to the heater. Is this method of conducting impossible by local reasons? And when there should be a necessity to place the main conduit of the steam lower than the heater, then the conducting pipes in all cases must run ascending, the incline to be in the direction of the motion of the steam; also, care must be taken that the condensing water has an outlet at its lowest point. All branching off for steam must be made at the upper circumference of the main steam conducting pipe.

When more heaters are to be placed in the different stories above each other, the common steam-conducting pipe can be used for the condensing water conduit from the heater, by connecting the admitting and discharge pipes from each heater with the steam pipe, and insert in the connecting pipe of the discharge a "back-lift valve," which must be so balanced that, when the surface of the condensation water in the heater reaches a certain height, this column of water will open the same, giving an opportunity for the water to escape. The steam pipe, arranged for the common use of steam and water, is not recommendable; it is difficult to remove the air accumulated from the heater, the action of the back-lift valve making a disturbing noise all along the pipe. It is therefore better to arrange separate steam and condensing water pipes, and insert in each of them, with the boiler, a valve.

The section of the steam pipe should be taken at least as large as the section of a safety valve required for a boiler, to furnish the needed amount of steam. For long conducting pipes this manner of calculating—taking from praxis—is insufficient, and it is then to be recommended, to make correct calculation, considering all the losses of pressure and resistances.

Pipes not used for the emitting of heat should be protected by surrounding them with non-conducting material, and care must be taken that by the interpolation of "compensators" and movable bearings, the expansion of pipes does not produce untightness and leaking.

The condensation water—draw off—pipes, which must also be run with care, must descend continually to the end. The diameter of the same—steam having a 1696 larger volume than the formed condensation water—can be much smaller than the steam pipes; but it also must be considered that the condensation water conduits, at the beginning of the heating and before the state of continuance is established, the condensation being more intense, must carry off quick all the condensed water.

The heater applied for steam heating is similar in form as the warm water heater described before. In the construction of the same, precaution must be used to prevent any untightness and leakage by the sudden start and letting on of steam. All tightening of joints, etc., must be made with metallic or mineral stuff; all organic matters are, therefore, to be excluded.

For the calculation of the heater the previous formulas for warm water heating can be used; as an average figure may be taken, that a wrought-iron steam heater can condense in the state of continuance—the temperature of the surrounding air being 20° 1.5 kg. (3.31 lbs.) of steam per square meter (10.76 sq. ft.) in an hour's time, emitting about 800 units of heat, provided that the surface being washed by the steam is like the heat-emitting surface. With other heaters a corresponding lower (heat-emitting) figure must be brought in account. Special precaution must be taken, and means provided for the removal of the atmospheric air from conducting pipes and heaters; also when the system is placed out of work, and air to be admitted. For this purpose air valves are to be put in, to be opened and closed by hand, or self-acting arrangements being attached to do this hand work effectively in the proper time.

The three systems of central heating first discussed may be combined to the forms (1) Water air heating; (2) Steam air heating; (3) Steam water heating.

The two first combined heating arrangements are to be constructed by uniting the calculations for air and water respectively steam heating. With both kinds all the warming apparatus can be placed in one heating chamber, and from the same conduct the warm air, as with air heating, to the rooms to be heated. Or, right square under the rooms to be heated is placed a heating chamber, and led to the same from a common fire-place, the warm water representing the steam. By the last method we have the advantage, that the warm air can ascend perpendicular, and that for large horizontal distances a single fire-place is sufficient.

The steam water heating arrangement can either be executed as a warm water heater, by which the water is not heated direct by the fire, but by steam; or an oven for a steam heating apparatus is constructed, containing and holding a larger quantity of water which is heated by steam, thus supplying a large reserve for heating after the steam has been shut off. It may be recommended to name an apparatus after the first arrangement "Steam warm water heating.' This system is, on account of its expensiveness, only at such single instances to be recommended where the different warm water heating arrangements shall be served from a single fire, and the horizontal extension does not permit a concentration of the heating boilers. The second combined system, properly called "steam water heating," has of late been frequently applied for rooms where a quick warming with a longer "after heating," as with warm water, is desired.

The heaters for steam water heating, which do exist in many various constructions, can be classified in the direct and indirect. The direct water heaters contain a space filled partly with water, the other part with steam, heating gradually the water. By the indirect steam water heaters, the space for the water and for the steam is separated, and the transmission of the heat from the steam to the water is done through a common surrounding wall.

Saw and Hatchet Carpenters.

THEY are getting to be pretty plentiful of late. They always appear in great numbers when times are dull and regular skilled mechanics are slack of work. But it may be necessary to explain to some of our readers what a "saw and hatchet" carpenter is. He is a man who has no regular trade or business, but has learned to use a hand-saw and hatchet so as to be able to put up a tolerably passable rough board fence. He then considers himself a jack-at-all-trades, and is around in season and out of season making bids on all sorts of jobs, from a chicken-coop up. There is nothing he will not undertake to do, and if he can arrange to get the material on credit he don't allow any such slight consideration as the price of the job to prevent his getting it. His hatchet is not the genuine G. Washington brand, and generally serves a better purpose in beguiling the unsuspecting citizen into giving him a job, or the accommodating lumber dealer into furnishing him the material, than in the actual execution of the work.

To an inquirer not personally acquainted with the skill of carpenters of the city, business in the building line would appear phenomenally dull. It is the saw and hatchet gentlemen who make nearly all the complaint. It is true that many worthy and competent carpenters are slack of work, and the price of their labor fluctuates with the demand for their services. It is impossible to fix uniform prices on small rough jobs or house repairs, where the saw and hatchet man abounds. They are nuisances to the retail lumber dealer and the dealer in building material. They ruin the business of the honest, skilled mechanic, who has served his time and mastered the trade, and produce unsightly "puckers" around the mouth of the retail lumber dealer, who so very often has to "whistle for his pay." An instance very recently was brought to our notice where an unsophisticated property-owner—a widow—asked for bids on some cheap building. The bills for the material aggregated $570, and the bids ran all the way from $800 down to $500. Of course the saw and hatchet man got the job, and made whatever he got for it off the lumberman and the employés, and it is natural to suppose that the widow got a poor class of cheap work. We have reason to believe that the class of workmen we allude to is not confined to any particular locality, but prevails over the entire country to the great detriment of the skilled mechanic and annoyance of the lumber dealer, besides being an imposition on the citizen. A reform in this matter is much needed. If a citizen has work that is needed at all it is worth doing well, and ought to be worth a fair living price.—*Southern Lumberman.*

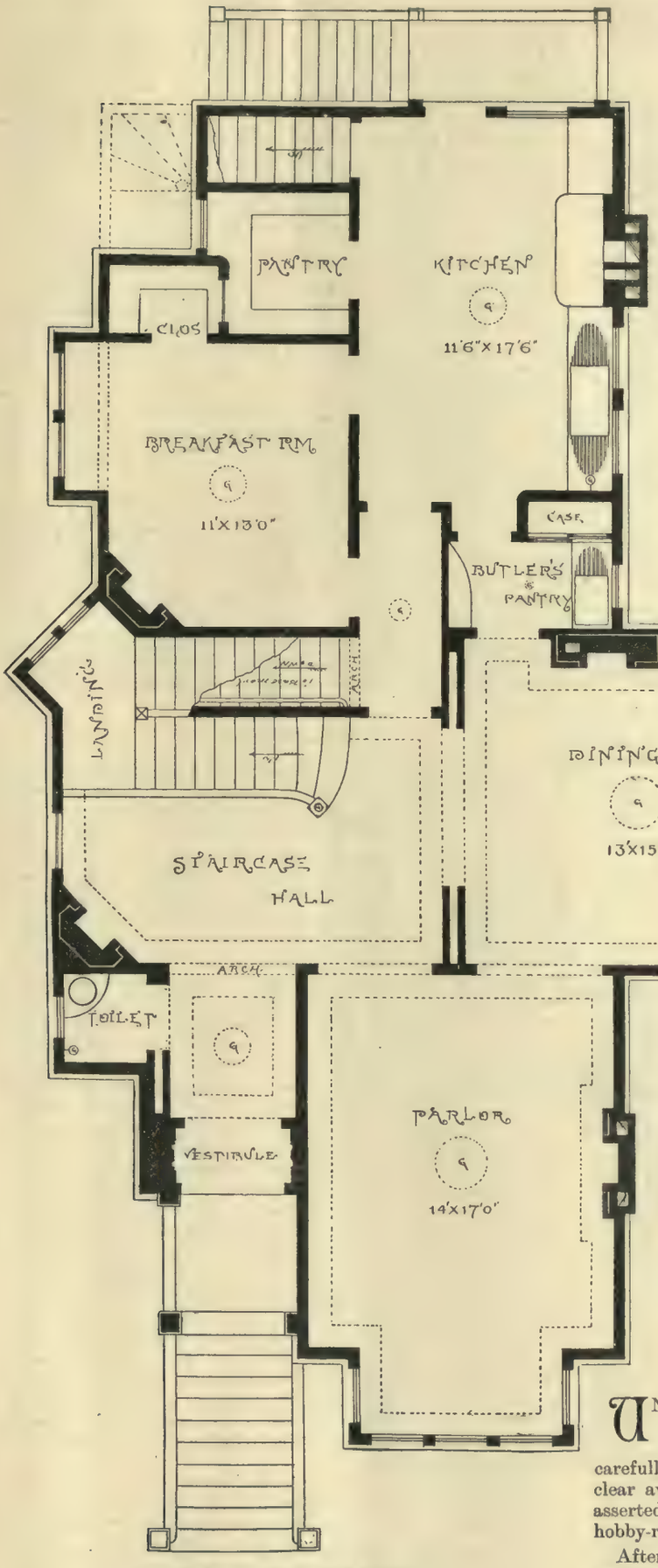


PLATE 3.—MAIN FLOOR PLAN.

Confidence.

CONFIDENCE in one's self goes far toward success. The machinist who is able to go about an ugly job feeling sure that he can devise ways and means for successfully completing the work, is the man who is valuable to his employer. A man who knows how to think, is apt to be such a man, while the man who must depend upon some job he has done before, or who must obtain an idea from his neighbor before he can complete the work, is not the man to make a successful mechanic.

The machinist who don't know what to do, or how to do it after he has got a hint, is a sorry chap on a strange job. He is in misery, and so are all around him. He gets nervous, jumps here and there, picks up a tool and lays it down again without using it; he asks everybody's advice, and don't know what to do with the advice after he gets it.

If a man finds himself in this condition he ought to study to overcome it. Let him learn to think out the effect of a blow before he strikes, and he will soon be able to tell just what kind of a blow will produce a desired result.

Here is the whole secret of being a good mechanic: to be able to see in advance just how a finished job should look; to see what cuts are needed to shape the matter as desired, and to know just how to make the required cuts.

Watch the "good machinist" and you will see that he knows in advance exactly the effect of every action he takes. He is like a good artist. He sees the picture as completed, and knows what marks to make and *just how to make them*.

An otherwise good man may have no confidence in himself. He may be too easily led by surrounding circumstances. He may underestimate himself, when his method is best if he only had the nerve to stick to it.

The other extreme is often met with. The "self-sufficient" workman is the man.

What he doesn't know about a job, never ought to be known. This man is another who doesn't know how to think. He sees or hears of a certain way of doing, and advocates that method without thinking why and wherefore, or if the method he advocates will have the desired effect.

The thinking machinist is neither of the above men. He is between them, and never reaches either extreme. He thinks when he is not aware of it, and methods and jigs suggest themselves to him naturally

No matter how ugly the job, a way to do it always comes along by the time it is wanted. Such a machinist is an example well worth following. He goes quietly about his work, makes no fuss or confusion, and is never at a loss for ways and means. Let us, therefore, learn to think. Instead of running our brains on telling stories, and telling which is the best brand of tobacco, just try the effect of thinking out how work is done, and how it should be done.

When a good way of doing a job is thought of, then stick to that way, and have confidence that you are right. The man who thinks is apt to have confidence in his ideas, and can go ahead to the successful completion of any job that comes to him—*James F. Hobart.*

How Much Ventilation?

UNDER the above title Mr. James L. Greenleaf, of the School of Mines of this city, has published in *Van Nostrand's Engineering Magazine* for November, 1885, a carefully prepared and interesting paper, designed, as he says, to clear away from the minds of some people a feeling that the asserted requirements of ventilation are made by enthusiasts and hobby-riders.

After showing that healthy men are constantly vitiating the air in which they live, and that the dangerous and unpleasant impurity thus added to the air is mainly the organic matter given off from the lungs and skin rather than the carbonic acid, he goes on to discuss the practical question, "How much air is necessary per individual to keep the impurities down to a safe limit?" His conclusion is that if we are content with a somewhat tainted air, from 1,500 to 1,800 cubic feet of fresh air per head per hour will answer, but that if we wish the air in our rooms to be entirely free from traces of mustiness, and to be perfectly fresh

to the senses, the supply must be from 3,000 to 4,000 cubic feet per head per hour. The paper is one that should be read by all architects and by all who are interested in the subject of ventilation.

Finishing.

WOOD finishing is the process of applying to the surface after it has been prepared, by filling and smoothing, or otherwise, a thin coating of varnish or other substance, to render it durable, enhance its beauty, or change its appearance. There are numerous methods of finishing, and a variety of materials are used, the varieties of varnish being the principal. The distinctive qualities of these varieties are treated under their proper headings.

In their natural state all woods are more or less porous, consisting of bundles of hard fibers, with interstices filled with a softer substance. These constitute the grain, and as the hard or soft parts predominate, the wood is said to be hard, fine, or close-grained, or soft and open-grained. To fill these softer parts, or pores, and give to the whole an even, uniform surface, hard, and capable of a brilliant polish, is the object of the finishers' art. This hard, firm surface was formerly gained by the successive application of several coats of varnish, at least three preliminary coats being required to fill the pores; the inequalities were then reduced by fine sand or glass-paper, and several additional coats laid on, the last, after becoming thoroughly hard, being polished if desired. In this operation, however, a great quantity of varnish is absorbed by the open pores of the wood, and it is consequently so expensive that it is now seldom used. Recourse is therefore had to various plans to render the wood non-absorbent before applying varnishes, and certain compounds called fillers are largely used for this purpose.

Richness of effect may be gained in decorative wood-work by using woods of different tone, such as amaranth and amboya, or inlaying and veneering. The Hungarian ash and French walnut afford excellent veneers, especially the burls or gnarls. A few useful notes on the subject are given by a recent American authority. In varnishing, the varnishes used can be toned down to match the wood, or be made to darken it, by the addition of coloring matters. The patented preparations, known as "wood fillers," are prepared in different colors for the purpose of preparing the surface of wood previous to the varnishing. They fill up the pores of the wood, rendering the surface hard and smooth. For polishing mahogany, walnut, etc., the following is recommended: Dissolve beeswax by heat in spirits of turpentine until the mixture becomes viscid; then apply, by a clean cloth, and rub thoroughly with a flannel or cloth. A common mode of polishing mahogany is by rubbing it first with linseed oil, and then by a cloth dipped in very fine brick-dust; a good gloss may also be produced by rubbing with linseed oil, and then holding trimmings or shavings of the same material against the work in the lathe. Glass-paper, followed by rubbing, also gives a good luster.

Logwood, lime, brown soft-soap, dyed oil, sulphate of iron, nitrate of silver exposed to the sun's rays, carbonate of soda, bichromate and permanganate of potash, and other alkaline preparations, are used for darkening the wood; the last three are specially recommended. The solution is applied by dissolving one ounce of the alkali in two gills of boiling water, diluted to the required tone. The surface is saturated with a sponge or flannel, and immediately dried with soft rags. The carbonate is used for dark woods. Oil tinged with rose madder may be applied to hard woods like birch, and a red oil is prepared from soaked alkanet root in linseed oil. The grain of yellow pine can be brought out by two or three coats of japan, much diluted with turpentine, and afterwards oiled and rubbed. To give mahogany the appearance of age, lime water used before oiling is a good plan. In staining wood, the best and most transparent effect is obtained by repeated light coats of the same. For oak stain a strong solution of oxalic acid is employed; for mahogany, dilute nitrous acid. A primary coat or a coat of wood fillers is advantageous. For mahogany stains, the following are given: two ounces of dragon's blood dissolved in one quart of rectified spirits of wine, well shaken, or raw sienna in beer, with burnt sienna to give the required tone; for darker stains, boil half a pound of madder and two ounces of logwood chips in one gallon of water, and brush the decoction while hot over the wood; when dry, paint with a solution of two ounces of potash in one quart of water. A solution of permangate of potash forms a rapid and excellent brown stain.

True and False.

THE statement of building intelligence for 1885, as appearing in December number of this journal, and in the *S. F. Chronicle Alta, California*, and other journals that used our table of facts, were correct. The statement in an evening journal, making the sum of expenditures $7,858,110 was not true, except in this,—to take the total sum of reports appearing in this journal, and upon general principles adding thereto ten per cent, which gives the exact figures of $7,858,110. But this was not honest journalism, as the figures given by our contemporary were presented to the readers of that journal as *original facts*, while in truth the reports of this journal were taken as a basis, and the ten per cent added, without one word of credit to us for the pilfering done from our columns.

The attempt of the journal referred to, to furnish weekly building reports in *imitation* of our monthly, are lamentable failures. To make up large lists and delusive showings, our files of two months or more back are sometimes resurrected and paraded to swell up the list; cases are reported which have no existence in fact; small jobs of a hundred or two dollars are magnified into respectable operations, and extravagant exaggerations utilized to swell appearances and bolster up appearances beyond fair and legitimate facts.

For several years, and until a few months since, this was the only journal that attempted to furnish reports of building activities, which were depended upon monthly by the city press generally, most of whom gave due credit, including the evening journal in question, until it fell upon the idea of a *new stroke of enterprise in imitating and patterning after us*, and fixing up weekly reports.

One thing is certain, the grand flourish of $7,858,110 for the year was not derived from any original data in possession of the *Evening Bulletin*. It was borrowed capital without acknowledgment.

Yellow Pine.

IN places where wooden floorings or trimmings undergo severe or constant use the valuable Southern yellow pine has become almost indispensable. In ship work its durability has been long acknowledged, but it is only within a few years that its usefulness for house purposes has been appreciated. In former times it was tedious stuff to work by hand, but its tediousness is now overcome by improved tools and steam dressing, and the increased call for hard pine wainscotings and ceilings that have attended the active building operations of late has been readily supplied. No wooden flooring that is used bare is superior to narrow strips of Georgia yellow pine. A well-laid surface of the wood improves with age and friction; its resinous quality hardens for it a sort of natural varnish. Art, too, has recently touched this sturdy old timber. Thin door panels are sawed out of planks containing thick deposits of resin. When these panels are placed in doors that the sun can strike, the effect produced is a rich, red wine color, showing inside the room. There is a process of artificially seasoning pine. There is also one of steaming it, so that the resin will show uniformity in the board, but the naturally veined surfaces are handsome enough when properly smoothed.

The supply of this timber seems exhaustless. A large fleet of schooners and other craft is devoted exclusively to its transportation from Virginia, North and South Carolinas, Georgia and Florida. The latter State is renowned for the long boards that are cut from its trees. Georgia owns the standard of quality, but any untapped stock rates high. Trees from which the pitch has been partly removed in the manufacture of turpentine turn out lighter wood, but such cuttings have not the wearing merit of sawings from virgin trees. Since the war, owing to better railroad facilities, large tracts of new forests have been opened to commerce. Europe, especially England, is a large buyer of this wood. Its excellence in railroad work on account of toughness and comparative lightness, is becoming recognized abroad as well as in this country.

When yellow pine vessels become dismasted or capsized at sea, they form most dangerous wrecks, and at night are an especial terror to navigators. Their buoyant cargoes prevent them from sinking, and they become, so to speak, a floating reef. Several abandoned schooners have been known to drift about the ocean from six to eighteen months. Not long ago one appeared on the coast of France. Captains report these drifts to the Government. The Government in turn spreads the information, but the danger is only partly provided against, as currents or driving winds can vary the situation indefinitely.

A little girl of two and a half years burnt her finger for the first time the other day. She placed her finger on a hot potato, and suddenly drew it back, exclaiming, "O der's a pin in it!"

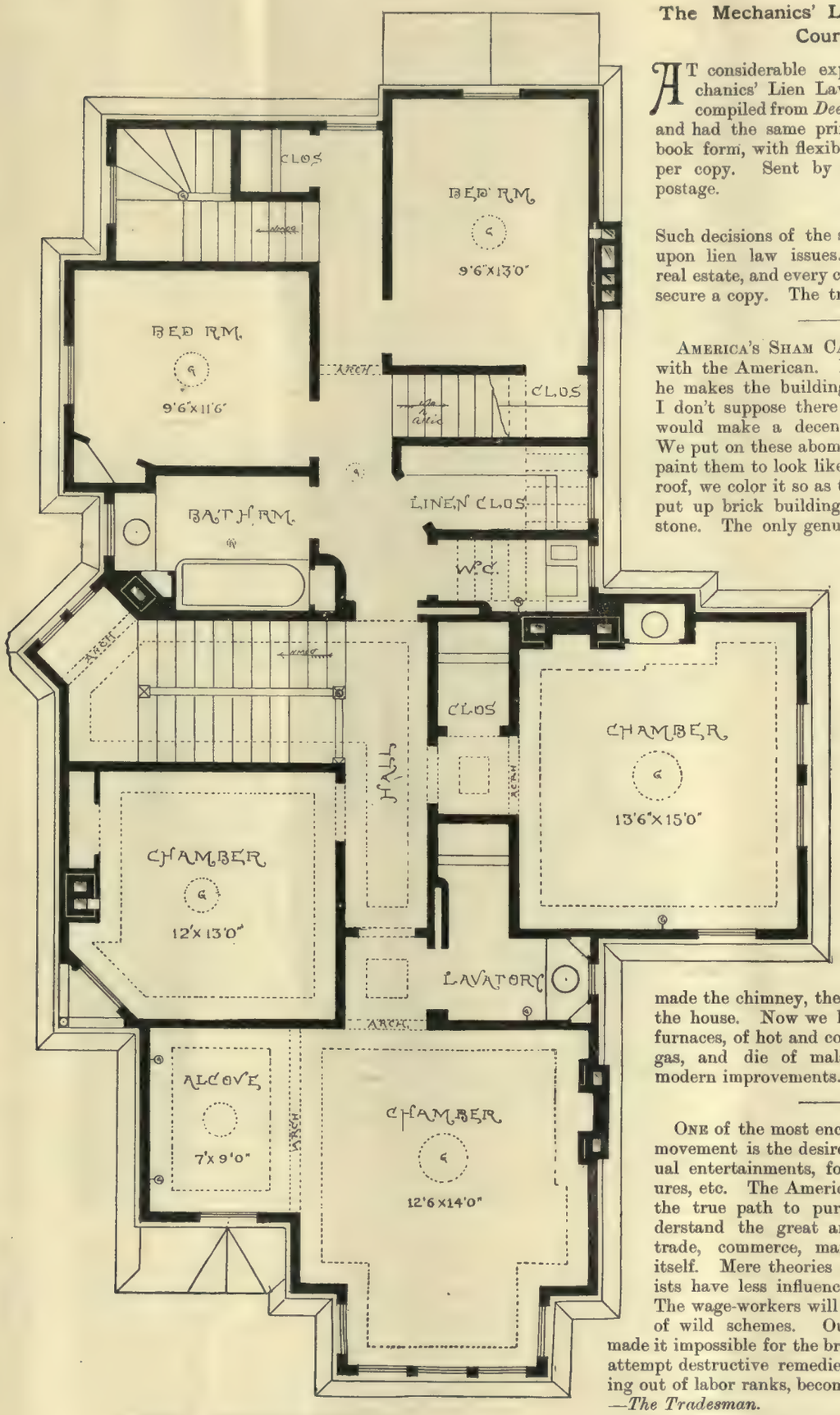


PLATE 4.—SECOND FLOOR PLAN.

THE London plumbers and gas-fitters are adopting a system of registration, for protection against incompetent workmen, who assume to do work on their own account and, by botching it, injure the reputation of the trade.

IT is stated that the Pennsylvania Railroad Company has under consideration the Frost gasoline light as a means by which to furnish illumination for its passenger coaches. The Frost light has an illuminating power equal to seventy-five candles, or nearly as much as a 6′ Lungren burner.

The Mechanics' Lien Law, and Supreme Court Decision.

AT considerable expense, we have had the Mechanics' Lien Law of the State of California compiled from *Deering Code of Civil Procedure*, and had the same printed and bound in convenient book form, with flexible cloth covers; price, 50 cents per copy. Sent by mail to any address, free of postage.

ALSO,

Such decisions of the supreme court as bear directly upon lien law issues. Every architect, owner of real estate, and every contractor and workman should secure a copy. The trade supplied.

AMERICA'S SHAM CASTLES.—There is the trouble with the American. If he has $100,000 to spend, he makes the building look like a $200,000 house. I don't suppose there is a building in Detroit that would make a decent ruin. We build for show. We put on these abominable sheet-iron cornices, and paint them to look like stone. If we have a shingle roof, we color it so as to look like slate or tiles. We put up brick buildings and thinly face them with stone. The only genuine thing, as well as the only original thing about American architecture is the pioneer log-house of the backwoods. There the logs were logs with the bark on, and the roof was of clapboards split from the oak blocks, the chimney was built of clay, and stood boldly and generously out as if it were not a thing to be hidden, but the warmest and most inviting thing about a house. The floor was uncovered boards, and the blackened beams overhead stood boldly out in the grateful light of a hickory fire blazing on the huge, ample hearth. The log-house was a product of the immediate land around it. The clay dug from the well made the chimney, the logs cut in the clearing made the house. Now we live—or try to—in an age of furnaces, of hot and cold water, of shoddy and sewer gas, and die of malaria and diphtheria and all modern improvements.—*Detroit Free Press.*

ONE of the most encouraging features in the labor movement is the desire for arbitration, for intellectual entertainments, for laborers' night schools, lectures, etc. The American workingmen recognize that the true path to pursue is to know more, to understand the great and vital questions underlying trade, commerce, manufacturing and government itself. Mere theories take very little hold. Socialists have less influence than ever with the masses. The wage-workers will not be led into the adoption of wild schemes. Our public school system has made it impossible for the brain and brawn of a country to attempt destructive remedies. Men and women are arising out of labor ranks, becoming fair writers and lecturers. —*The Tradesman.*

SOME investigations made relative to the heat of combustion of stone coal have led to the conclusion by Meunier and others that during the formation of coal a certain quantity of heat must have been absorbed, since the theoretical heat of combustion was always less than that actually observed. From want of knowledge, however, as to the real constitution of coal, it is regarded as impossible to determine the nature of this absorbtion. It is also a fact that, from want of knowledge as to the composition of coal, the heat of combustion cannot be calculated. It is well known that two coals of precisely the same chemical composition may and do afford very different degrees of heat in combustion.

Child and State.

PUBLISHED by, and in the interest of, the Boys' and Girls' Aid Society of this city, contains the elevation design for the contemplated building, and many interesting facts and statements. Through the generosity of Senator Fair, the society was enabled to secure an eligible lot, and the timely gift of Mr. Crocker, of $31,000, supplies the greater part of the fund necessary to active operations.

It is hoped that before the advent of 1887 the society will not only have a "roof over its head," but a completed and fairly, if not thoroughly equipped home for hundreds, who, but for the doings of the society, might remain upon the currents of life leading to unhappiness and a bad ending.

The $4,000 from the late Mr. Sharon will still further help on the work; and pre-supposing some things not yet made known, it is fair to set down, in the list of *likely things*, considerable sums from others moved by innate nobility of soul, or by the example of the few millionaires and wealthy men who have, by their grand gifts to deeds of charity and public benefaction, reared monuments of fame, which will perish when, and not until, good deeds shall no longer be considered meritorious.

Housing of the Berlin Populace.—A flood of light is let in on the singular spread of socialism in the German capital by statistics showing that in Berlin no less than 94,000 families, comprising nearly 400,000 individuals, have to live, sleep, and often work in suites of a single room. In 3,000 of these rooms there is neither stove nor fire-place. One-fourth of their tenants are poor lodgers. Twenty-five thousand families live in cellars under sanitary conditions that are characterized as absolutely shocking. Such meager accommodations as our despised New York tenements afford, with their two or three rooms to each family, are at a premium, and would be accounted a great boon by thousands. Only of the poorest and the best classes of dwellings—those renting at 10,000 reichmark a year or over—is there abundance, for the Berlin builder is a speculator, not a philanthropist. The poor have not even the chance of going to church of a Sunday, to meditate on better things to come, were they so minded; for all the Protestant churches and chapels in Berlin have together hardly seats for 50,000, while the servant girls alone number over 60,000.—*New York Tribune.*

The Bronze Bacchus from the Tiber.—The chalky incrustation which covered the bronze statue lately found in the bed of the Tiber has been removed, and the admirable modeling of the statue has thus been fully revealed. It is one of the most beautiful works of the kind, and with the exception of some damage to the legs and left hand, is in a capital state of preservation. The statue, about six feet, is doubtless that of the youthful Bacchus. In the left hand is the usual staff, while the right probably held a drinking-cup, in the attitude so often seen in pictures of the god at Pompeii. The soft and feminine form, the ivy wreath on the head, the luxuriously waving hair, which is modeled in the manner of the hair of Apollo, are other proofs that the statue was meant for Bacchus. It seems to belong to the first century of the Roman Empire, when Rome was illuminated by the last rays of Greek art. The lines and surfaces of the statue in all the uninjured parts are as fresh and pure as if the work had just left the master's hand. The figure was only half buried, head downward in the bed of the river, so that the action of the water has roughened the lower parts. The eyes inserted are of ivory and give extraordinary vitality to the expression.—*London Daily News.*

Some Pittsburg men who looked for a leak in a natural gas pipe, with a lantern, found the leak, and then went to the hospital.

Our Illustrations.

ATTENTION is directed to the illustrations given in this issue. Plates 1 and 2 represent the front and side elevation of a very comfortable private residence, suitable for either city or country. Plates 3 and 4 show the two floor plans, which sufficiently explain themselves. As will be seen, the arrangements are complete for a comfortable home, with possibilities for additional rooms and enlargement. Plates 5 and 6 are the two elevations for a convenient, moderate cost, suburban cottage. There are but few journals, even during the holiday season, which have produced illustrations of greater practical value than those in present number.

[From an address by Professor Thurston, of Cornell University.]

At Bloomfield, New Jersey, the authorities are introducing most successfully a course of instruction of both boys and girls in the use of tools into their public school system. A

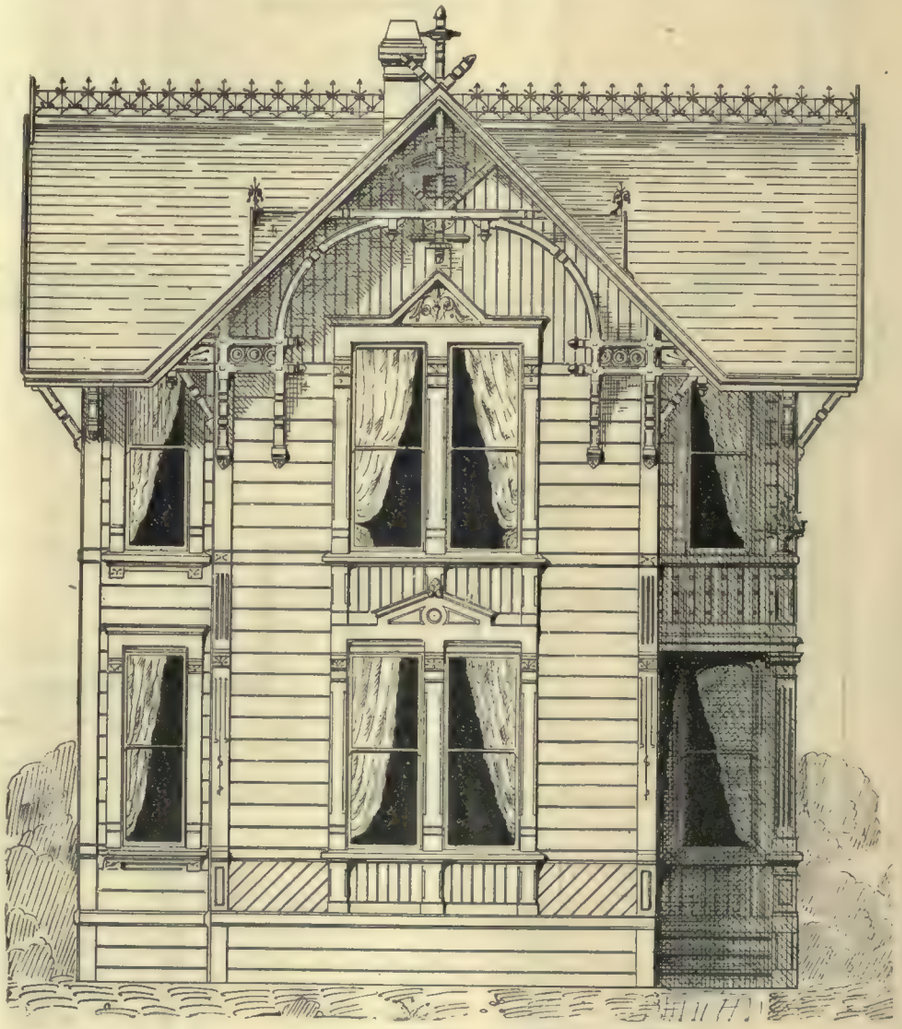


PLATE 5.

manual training school affords a means of rewarding merit at Girard College, where the best students and most promising youth are admitted into the wood-working and machine shops under instruction, and there, under the careful and skillful tuition of expert mechanics, I have seen boys of twelve doing work at the vise with hammer and chisel and file that many an old workman might be glad to rival. The city of Chicago has a manual training school; at St. Louis, Washington University is doing excellent work in well-appointed shops. Boston, in her great Institute of Technology, besides the classes of aspirant mechanical engineers, has organized other classes of boys ambitious to learn the use of tools, and is cultivating the special Yankee talent in a systematic and fruitful manner; and all over the country these primary technical schools are springing up.

"A year or more ago, I received a letter from a capable and successful superintendent of schools in a Western city, saying that he had seen plainly the approach of the new era in primary education of the people for the work and life of the people, and desired to be ready for its advent in his own city, and asked to be instructed that he might intelligently direct the changes of method and system inevitably to come in his own organization.

He came East and worked in the shop and studied under instructors all summer, to obtain the requisite knowledge and skill. Fortunately, he proved a natural mechanic, and an extraordinarily capable man, and he is now ready to lead in the movement when the looked-for time shall arrive.

"Trade schools now form a part of every school of engineering, and schools of engineering are springing up all over the land."

ANCIENT SANITARY LAWS.—That sanitary regulations are not wholly the invention of the present generation, is evidenced by the historical fact, which perhaps is not generally known to most people, that more than two centuries ago the father of Shakespeare was fined by the authorities of Stratford-on-Avon for depositing garbage in the street in front of his cottage.

Building Report from Woodland, Yolo County.

MESSRS. GILBERT & SON kindly furnish us the following facts relative to building improvements in that part of the State:—

"The private residences taken alone are decidedly better, and show a marked improvement over the majority of those of former years, and confidence is felt that the buildings and improvements for 1885 will compare favorably with any town of same size in Northern California in number of buildings and aggregate value.

PLATE 6.

"The two months showing smallest returns were January and May—25 buildings at $34,700, and the two largest months, September and November—61 buildings at $157,375."

1885.	WOODLAND CITY.								YOLO COUNTY.				
Month.	No. per month.	FRAME BUILDINGS.		BRICK BUILDINGS.		ADDITIONS & IMPROVEM'S			FRAME BUILDINGS.		BRICK BUILDINGS.		TOTAL VALUE PER MONTH.
		No.	Value.	No	Value.	No	Value.		No	Value.	No	Value.	
Jan	12	2	$ 2,200	..	$.....	4	$3,800		4	$ 5,400	2	$ 2,000	$13,400
Feb	12	3	3,100	1	1,400	3	6,300		2	3,000	3	13,000	26,800
M'h	22	8	13,500	5	37,000	4	4,700		5	7,100	..	.....	62,300
Apl	13	9	33,400	..	.....	..	.....		4	7,700	..	.....	41,100
M'y	13	4	5,300	1	5,500	2	2,000		6	8,500	..	.....	21,300
Jne	19	13	39,100	..	.....	4	5,000		1	2,100	1	12,000	58,200
J'ly	15	10	25,100	..	.....	..	.....		3	3,600	2	10,000	38,700
Agt	12	6	33,100	..	.....	2	2,000		4	5,000	..	.....	40,100
Sep	31	20	44,800	..	.....	..	.....		9	22,275	2	15,000	82,075
Oct	27	12	21,200	2	2,500	..	.....		12	24,400	1	2,500	50,600
N'v	30	10	14,000	7	19,100	1	1,000		10	33,700	2	7,500	75,300
Dec	18	8	11,700	2	16,000	1	1,500		7	12,000	..	.....	41,200
Total	224	105	$246,500	18	$81,500	21	$26,300		67	$134,775	13	$62,000	$551,075

Total number of buildings in Woodland, 144; value, $354,300. Total number of buildings in Yolo County, 80; value, $196,775. Total number of buildings for City and County, 224. Final aggregate, $551,075.

While the preceding statement shows 224 buildings and improvements for Woodland and Yolo County, at a value of $551,075, it would be safe to add to this amount 10 per cent for engagements costing less than $1,000 (minor improvements, barns, carriage-houses, out-buildings, etc., not reported), $55,107 50, making the final value invested in 1885, $606,182.50. This presents a gain over 1884 of 91 buildings and $251,628.50 capital.

For comparison, we give a recapitulation of the annual statistics for six years, from 1880 to 1885 inclusive, presenting the number of buildings, aggregate value, average value, and largest single engagement each year: —

YEAR.	NO. OF BUILDINGS.	AGGREGATE VALUE.	AVERAGE VALUE.	LARGEST NGAGEMENT.
1880.....	54	$126,720	$2,346	$28,000
1881	59	140,640	2,382	34,580
1882..... ..	71	169,950	2,393	15,500
1883.....	84	204,519	2,434	52,000
1884..	133	359,594	2,702	28,000
1885	224	606,182	2,461	25,000
Total for 6 years ...	625	$1,607,605	$2,148	$5 ,000

Woodland, twenty-five years ago, contained within present city limits one dwelling. At the present time it is one of the prettiest inland cities, with rows of brick stores and structures, churches, school houses, hotels, theater, and other evidences of modern life and prosperity, besides many fine residences and the earlier constructed buildings, and the less costly cottages of more recent construction. The future outlook is good.

TO TEMPER TOOLS.—The quality of the steel should be uniform throughout; indeed, it is always better to have them tempered rather too hard than soft, for use will reduce the temper. If at any time it is necessary to perform the operation yourself, the best method is to melt a sufficient quantity of lead to immerse the cutting part of the tool in. Having previously brightened its surface, plunge it into the melted lead for a few minutes, till it gets sufficiently hot to melt a candle, with which rub its surface; then plunge it in again, and keep it there till the steel assumes a straw color, but be careful not to let it turn blue. When that is the case, take it out, rub it again with the tallow, and let it cool. If it should be too soft, wipe the grease off, repeat the process without the tallow; and, when it is sufficiently hot, plunge it into cold spring water, or water and vinegar mixed. By a proper attention to these directions, and a little practice, every workman will have it in his power to give a proper temper to the tools he may use. If a saw is too hard, it may be tempered by the same means; but as it would be not only expensive, but in many cases impossible to do it at home, a plumber's shop is mostly at hand, where the process may be repeated when they are melting a pot of lead. But here observe that the temper necessary is different to other cutting tools; you must wait till the steel just begins to turn blue, which is a temper that will give it more elasticity, and, at the same time, sufficient hardness.

Glass Flooring.

THE substitution of glass flooring for boards continues to increase in Paris, this being especially the case in those business structures in which the cellars are used as offices. At the head-quarters of the Crédit Lyonnais, the whole of the ground is paved with large squares of roughened glass, imbedded in a strong iron frame, and in the cellars beneath there is sufficient light, even on dull days, to enable clerks to work without gas The large central hall at the offices of the Comptoir d'Escompte has also been provided with this kind of flooring, and it is said that, although its prime cost is considerably greater than that of boards, glass is, in the long run, far cheaper, owing to its almost unlimited durability.

IF you go about telling people you have an inheritance worth a million worlds, and yet get out of temper about the loss of a nickel, they will not believe you.

MASONS' AND BUILDERS' EXCHANGE OF SAN FRANCISCO.

ROOM 11, 314 MONTGOMERY ST.

BELOW will be found a list of the members composing this Exchange. Boxes are provided for each member, so that architects, owners, or others desiring the services of any particular member, or those having boxes who are not members, and yet whose business is directly connected with that of the Exchange, can readily secure the attendance of the party sought, by leaving a note in the respective boxes.

BRADY, O. E., President, 822 Valencia Street.....Box 22
BUTLER, THOMAS, 593 Ash Avenue, Treasurer..... " 28
BOWERS, T. N., Oakland, 804 Castro Street..... " 49
BENDER, JACOB, 1009 Clay Street..... " 73
BECK, J., 10 Eleventh Street..... " 12
CAIN, R. K., 213 Page Street..... " 61
CALVERT, JOHN, 812 Hyde Street..... "
COX, JOHN, 608 Jones Street..... " 16
CLAWSON, L. E., 129 Oak Street..... " 2
DUNBAR, WM., 27 Eleventh Street..... " 14
DOWNS, JOHN, 269 Minna Street..... " 18
DUNPHY, ED., 1006 Bryant Street..... " 34
FERRIS, CRAWFORD, 9 Bourbon Street..... " 20
GLYNN, JAS., 432 Clementina St..... " 57
HANAVAN, JOHN H., 1711 Jessie Street..... " 15
HOCK, T., 422 Golden Gate Avenue..... " 60
HAFF, J., 516 Kearny St..... " 6
HIGGINS, ROBERT, 1724 Jessie Street..... " 13
HUGHES, JOHN, 310 Seventeenth Street..... " 21
JORDAN, D., 911 Webster Street..... " 59
KNEEDLER, G. W., 1013 Vallejo Street..... " 51
KINCAID, J. E., 2219 Pacific Avenue..... " 45
LIEBERT, J. G., 330 Oak Street..... " 32
LOANE, F. M., 1512 Golden Gate Avenue..... " 38
MITCHELL, ROBERT, 807 Turk Street..... " 26
MCCARTHY, JOHN, 2509 Folsom Street..... " 7
MCGOWAN, MATT., 614 Linden Avenue..... " 17
MCDERMOTT, JOHN, 124 Tenth Street..... " 33
MCGUIRE, JOHN, 212 Grove Street..... " 74
MULCAHY, JAS, 612 Larkin Street..... " 33
NAGLE, GEO. D., 427 Montgomery Street..... " 24
O'CONNOR, J. J., 648 Minna Street..... " 19
O'BRIEN, D. J., 323 Dupont Street..... " 31
O'SULLIVAN, P., 432 Ninth Street..... " 35
RICHARDSON, GEO., 513 Ell s Street..... " 66
RICHARDSON, M. B., 624 Shotwell Street..... " 10
RILEY, J. F., 166 Perry Street, Secretary..... " 38
ROBERTS, S. N., 54 Third Street..... " 55
STEVENS, W. E., cor. Larkin and Market Streets..... " 46
SCHOENMAKER, C., 323½ Chestnut Street..... " 62
WAGNER, J., Potrero Avenue bet. 22d and 23d Streets..... " 3
WORRELL, C. R., 888 Seventeenth Street..... " 5
WATERSON, G. T., 638 Market Street..... " 46
YOUNG, LEWIS..... " 49

BOX RENTERS—IRON MEN.

RALSTON, H. & J., Iron-men and Housesmiths.....Box 78
LEWELLYN, R., Columbia Foundry..... " 77
PENDERGAST, THOS., Howard Iron Works..... " 72
WESTERN IRON WORKS..... " 69

STONE.

SCHALICKE, F. W., Patent Stone.....Box 75
SOMERVELL, W. S., Granolithic Paving Co..... " 55
PETERSON, H. M., Sand and Gravel..... " 63
RICHARDSON, M. B., Concrete..... " 1

BRICK.

ROBERTS & DAVIS, Sacramento Brick.....Box 36
REMILLARD BRICK CO..... " 23
PATENT BRICK CO..... " 29
PETERSON, T. W. & CO., San Jose, Brick Co..... " 68

PATENT CHIMNEYS.

STEVENS, W. E.....Box 46
BROWELL, J..... " 71
CLAWSON, L. E..... " 2

MISCELLANEOUS.

DAVIS & COWELL, Lime and Cement.....Box 43
WHITTIER, JAS. E., Asphaltum..... " 41
MCCLURE, P. L., Grader and Waterman..... " 30
SIBLEY, L. B., Teamster..... " 40
WARREN, CHAS., Grader..... " 37
BUCKMAN, A. E., Grader..... " 42
KELSO, JOHN, Grader..... " 76
ENGLISH W. D. & CO., Graders..... " 70
BUTTERWORTH, T. C., Glazier..... " 48
HARNEY & SON, Street Contractors..... " 54

AN EXTRAORDINARY OFFER.

WE want Live, Energetic, and Capable Agents in every county in the United States and Canada, to sell a patent article of great merit, ON ITS MERITS,—an article having a large sale, paying over 100 per cent profit, having no competition, and on which the agent is protected in the exclusive sale by a deed given for each and every county he may secure from us. With all these advantages to our agents, and the fact that it is an article that can be sold to every house owner, it might not be necessary to make an "EXTRAORDINARY OFFER" to secure good agents at once, but we have concluded to make it to show, not only our confidence in the merits of our invention, but in its salability by any agent that will handle it with energy. Our agents now at work are making from $150 to $600 a month clear, and this fact makes it safe for us to make our offer to all who are out of employment. Any agent that will give our business a thirty days' trial, and fail to clear at least $100 in this time, ABOVE ALL EXPENSES, can return all goods unsold to us, and we will refund the money paid for them. Any agent or general agent who would like ten or more counties and work them through sub-agents for ninety days, and fail to clear at least $750, ABOVE ALL EXPENSES, can return all unsold and get their money back. No other employer of agents ever dared to make such offers, nor would we if we did not know that we have agents now making more than double the amount we guaranteed; and but two sales a day would give a profit of over $125 a month, and that one of our agents took eighteen orders in one day. Our large descriptive circulars explain our offer fully, and these we wish to send to every one out of employment who will send us three one-cent stamps for postage. Send at once and secure the agency in time for the boom, and go to work on the terms named in our extraordinary offer. We would like to have the address of all the agents, sewing-machine solicitors, and carpenters in the country, and ask any reader of this paper who reads this offer, to send us at once the name and address of all such they know. Address at once, or you will lose the best chance ever offered to those out of employment to make money.

RENNER MANUFACTURING CO.,
116 Smithfield St., Pittsburg, Pa.

Market Reports.

Hereafter we will give, as far as practicable, the Market Report (monthly) in the following manner:—

LUMBER—Nothing doing in cargo lots, and prices for same are $1 50 to $2 below the following rates, which are for retail lots:

Rough Pine, merchantable	per M feet,	$14 00
" " No. 2	" "	11 00
" Redwood, No. 1	" "	17 00
" " No. 2	" "	13 00
1x6 T. & G. No. 1 Pine	" "	26 00
" " " No. 2 Pine	" "	21 00
1x4 and 1¼x4x6 T. & G. No. 1 Pine	" "	28 00
" " " " No. 2 Pine	" "	23 00
Stepping, Pine	" "	37 50
Surface Redwood, No. 1	" "	30 00
1x4 T. & G. Redwood, 12 ft. and over	" "	28 00
1x6 " " " " "	" "	25 00
1x4 and 6 T. & G. Redwood, No. 2	" "	20 00
Siding, ½ inch	" "	22 50
Fancy Pickets	per M,	25 00
Rough "	"	15 00
Rough Square	"	14 00
Shingles	"	2 00
Laths	"	3 25
Battens, ½x3	per lineal foot,	¾ ct.

NAILS—Rates were recently reduced to:—

20 keg lots	$3 15
100 keg lots	3 20
Smaller quantities	3 25

(The reduction in above rates is caused by Eastern factories unloading again on this market.)

PAINTS AND OILS:—

Pioneer White Lead (local factory)	6c @ 6½
Cal. Linseed Oil, raw (single bbl lots)	45
" " " boiled " " "	47½
Turpentine, per gallon	50

(There is a lively competition between Eastern Linseed and Home Manufactures.)

BRICK—California Building Description, soft, per 1,000.....$6 50
" " " red, " " 7 50
" " " hard, " " 8 50

Building Intelligence.

Where owners' names are left blank, it is so done in most instances by special request.

B

Brush, bet. Montgomery and Sansome. Five-story and basement brick.
O.—Charles Crocker.
A.—Edward R. Swain.
Total of contracts awarded for brick, carpenter, iron, granite, stone, steel, beam and vault work amounts to $130,000. Painting, plumbing, plastering, and other portions of the work not yet let.

Broderick, cor. Water. Three two-story frames.
O.—G. B. Beale.
A.—Townsend & Wyneken
C.—H. B Hosmer.
$13,500.

Broadway, nr. Leavenworth. Alteration.
O.—H. Mahoney.
C.—M. Murray.
$1,500.

Brannan Place, Green, bet. Dupont and Stockton. Three-story frame.
O.—Joe Vacarro.
Day work.
$5,000.

Bay, NE cor. Dupont. Factory.
O.—J. Mayer.
A.—H. D. Mitchell.
C.—W. E. Wellbye
$10,000.

C

California, bet. Larkin and Polk. Three-story pressed brick.
O.—H. Campbell.
C.—W. B. Bradbury.
$25,000.

Clay, cor Franklin. Two-story frame.
O.—P. N. Lilienthal.
A.—Pissis & Moore.
$30,000.

Church, corner Dorland. Two-story frame.
O.—C. B. Williams.
A.—C. Geddes.
C.—J. Wilson.
$5,500.

Chattanooga, bet. Twenty-second and Twenty-third. Four one-story frames.
O.—J. Bolger.
A.—Huerne & Everett.
C.—Doyle & Son.
$6,100.

California, above Montgomery. Additions and alterations.
O.—Spring Valley Water Works Co. J. Schussler, sup't of building.
Day work.
$5,000.

Clipper, corner Church. Two-story frame.
O.—H. Bernhardt.
A.—J. Hoffman.
C.—A. Klahn.
$3,500.

D

Devisadero, nr. Page. One-story frame.
O.—Miss E. O. Darrow.
C.—H. Darrow.
$800.

Dupont, bet. California and Sacramento. Additions and alterations.
O.—Joe Geozt.
A.—T. J. Welch.
C.—J. L. Binet.
$5,000.

Dolores, bet. Duncan and Twenty-eighth. Frame church.
O. German Methodist Episcopal Church.
C.—A. Klahn.
$1,000.

Dorland, nr. Seventeenth. Two one-story frames.
O. C. Coulson.
C. G. M. Salisbury.
$2,000.

E

Eddy, nr Mason. Additions and alterations.
O.—C. H. Twombly.
C.—C. M. McDonald.
$5,000.

Eddy, nr. Devisadero. Two-story frame.
O. and B.—F. Buckley.
A.—Huerne & Everett.
$2,000.

Ellis, nr. Gough. Two-story frame.
O.—M. Foley.
A.—T. J. Welch.
C.—Emgerson & Gore.
$5,500.

F

Fair Oaks, bet. Twenty-fourth and Twenty-fifth. Three-story frame.
O and B.—J. L. Binet.
Day work.
$5,000.

Franklin, cor Golden Gate ave. Three-story frame
O.—J. A. Bergerot.
A.—W. A Bayless.
C —J A Leonard.
$10,000.

Fulton, bet. Franklin and Gough. Three-story brick, United States Brewery.
O.—F. Keonenberg & Co.
A.—H. Geilfuss.
C.—Brick work, T Haaf; carpenter, W. Pluns.
$80,000.

G

Geary, nr. Octavio. Two-story frame.
O.—A. M. Goldsmith.
A.—J. Marquis.
C.—H. Tibbets.
$7,500.

Green, bet. Kearny and Dupont. Additions.
O.—J. Picceroni.
C.—J. Foster.
$1,200.

Gough, cor. Post. Two-story frame.
O.—Mrs. J. V. Elvert.
A.—Kennitzer & Raun.
C.—F. Klatt.
$6,500.

H

Hyde, bet. Greenwich and Lombard. Two-story frame
O.—Mrs. Libby.
A.—Townsend & Wyneken.
Day work.
$2,000.

Hampshire, bet. Twenty-first and Twenty-second. Two-story frame.
O.—V. Boseo.
Day work.
$800.

Haight, near Broderick. Two-story frame.
O.—M. Riley.
A.—J. J. Clark.
C.—J. W Smith.
$3,000.

Hampshire, nr. Twenty-first. One and one-half story frame.
O.—W. Coons.
C.—J. B. Williams.
$1,800.

Howard, bet. Thirteenth and Fourteenth. One and one-half story frame.
O.—J. O'Connor,
A.—M. J. Welch.
C. M. D. Creman.
$1,900.

Howard, bet. Thirteenth and Fourteenth. Two-story frame.
O.—Maria Quinn.
A.—S. and J. C. Newsom.
C.—D. B. Spangler.
$2,250.

Haight, nr. Broderick. Two-story frame.
O.—M. Riley.
A.—J. J. Clark.
C.—J. W. Smith.
$2,500.

Hyde, bet. Sacramento and Clay. Two-story frame.
O.—M. Wunch.
A.—Kennitzer & Raun.
C.—H. Meyne.
$7,500.

J

Jackson, nr. Van Ness. Two-story frame.
O.—Eliza R. Dingerfeld.
A.—Percy & Hamilton.
C —B. F. Ellis.
$2,000.

Jackson, cor. Van Ness. Two-story frame.
O.—S. Tanes.
A.—Percy & Hamilton.
C.—B. F. Ellis.
$6,000.

Jackson, nr. Van Ness. Two-story frame.
O.—Mrs. E. Daningfield.
A.—Percy & Hamilton.
C.—B. F. Ellis.
$2,000.

L

Lombard, nr. Jones. Two story frame.
O. and B.—J. P. Hunter.
Day work.
$3,500.

M

Mission, bet. Fifth and Sixth. Repairs.
O.—J. W. Brown.
Day work.
$2,500.

McAllister, cor. Franklin. One-story frame.
O.—B. Winkads.
A.—H. Geilfuss.
C.—J Fuchs.
$1,700.

Market, nr. Fifth, south side. Additions and alterations.
O.—J. McCauley.
Day work.
$3,000.

M, cor. Guerrero. Two-story frame.
O.—Sarah B. Fassackerley
A.—M J Welch.
C.—C. Buckley.
$2,800.

Montgomery Avenue, junction Stockton. Two-story frame.
O.—
C.—A. Alexander.
$2,500.

N

Nineteenth, cor. Lapidge. Two-story frame.
O.—J. Thompson.
A.—T. J. Welch.
C.—J. Blake.
$5,500.

O

O'Farrell, cor. Gough. Two-story frame.
O.—I Selig.
A.—J. Marquis.
C.—R Parker.
$14,000.

Oak, bet. Scott and Devisadero. Two-story frame.
O.—P. Duffy.
Day work.
$2,500.

Oak, bet. Devisadero and Broderick. Two-story frame
O.—N. Schlessinger.
A.—McDougall & Son.
C.—J. A. Leonard.
$4,800.

Oak, bet. Scott and Devisadero. Additions.
O -and B.—J. Weigner.
Day work.
$1,500.

P

Pine, nr. Broderick. Two-story frame.
O. and B.—W. F. Lewis.
Day work.
$3,700.

Polk, bet. Fulton and Grove Two-story frame.
O.—B. Bowman.
A —T. J. Welch.
C.—J. Blake.
$4,500.

Polk, nr O'Farrell. Three story frame.
O.—H. Slessinger.
A.—P. R. Schmidt.
C.—H. Keenan.
$8,000.

Pine, nr. Stockton. Additions.
O.—Miss Princ.
C.—S. M. Hills.
$2,000.

Pine, nr. Larkin. Additions.
O.—Chicago Brewery Co.
Day work.
$80,000.

Pine, nr. Devisadero. Two-story frame.
O.—Mrs. Myrick.
A.—T. J. Welch.
C.—A. McElroy.
$3,500.

S

Seventeenth, bet. Noe and Sanchez. One-story frame.
O.—N. Bullerdieck.
A.—H. Geilfuss.
C.—F. Bohnenberg.
$1,800.

Seventeenth, nr. Sanchez. One-story frame.
O. and B.—L. Sauer.
A.—Salfield & John.
$2,000.

Sacramento, cor. Scott. Two three-story frames.
O. and B.—Thomas Holt.
Day work.
$8,000.

Sutter, bet. Scott and Devisadero. Two-story frame.
O. and B.—James Geary.
Day work.
$3,000.

Seventeenth, nr. Collinswood. One-story frame.
O.—W. Thomas.
Day work.
$1,500.

Seventeenth, nr. Noe. One-story frame.
O. and B.—A. Sauer.
Day work.
$1,700.

Seventeenth, nr. Noe. One-story frame.
O.—
C.—F. Bohnenberg.
$2,000.

Stevenson, near Nineteenth. Additions.
O.—H. Walsh.
C.—J W. Powers.
$1,800

Second, near Frederick. One-story frame.
O.—N. Treadwell.
C.—B. Treadwell.
$1,200.

Shotwell, cor. Twenty-sixth. One-story frame.
O. and B.—C O. Smith.
Day work.
$2,000.

Shotwell, near Twenty-sixth. One-story frame.
O.—A. Wadwell.
C.—McCormack & Elam.
$1,500.

T

Twenty-first, cor. Guerrero. Alterations.
O.—E. G. Denningston.
A.—Percy & Hamilton.
C.—B. F. Ellis.
$2,000.

Twenty-sixth, cor. Treat ave. One-story frame.
O.—W. Halpin.
Day work.
$1,000.

Twenty-third, nr. Bartlett. Additions.
O.—H. Fitzgerald.
Day work.
$600.

Twentieth, bet. Valencia and Guerrero. One and one-half-story frame.
O.—F. Mettmann.
C.—F. C. Kleebauer.
$2,000.

V

Van Ness Avenue, cor. O'Farrell. Work on the Roman Catholic Cathedral has been commenced Contract to the amount of $12,000 has been let to O. E. Brady for grading and fence work.

Vincent, cor. Green. Two-story frame.
O.—C. Munsanti.
Day work.
$2,300.

Valencia, cor. Twenty-first. Three-story frame.
O.—J. T. Poheim.
A.—B. E. Henriksen.
C.—Moore Bros.
$21,500.

Valencia, bet. Nineteenth and Twentieth. Two-story frame.
O.—G. Perini.
A.—B. E Henriksen.
C.—Moore Bros.
$1,000.

Valencia, bet. Sixteenth and Seventeenth. Three-story frame.
O.—C. F. Hornung.
C.—F. O. Bergman.
$10,000.

ALAMEDA.

Park, cor. Buena Vista—2-story fr; o, H. Johnson; a, W. Benson; c, Burns & Wright; $4,000.
Central Ave., nr Park—2-story fr; a and b, Louis Aime; day work; $2,000.
Park—2-story fr; o, G. W. Coggin; c, Pattiani & Co.; $3,500.
Minto, cor Pacific—1 story frame; o, Capt. Larsen; c, H. Krause; $2,000.
San Jose Ave.—1-story ctg; o, Mrs. Fulton; c, Pattiani & Co.; $2,000.
Union, cor Eagle Ave—1 story ctg; o, Mr. Bacon; c, A. Walker; $3,500.
Pacific Ave., nr Peru—Two 1-story ctgs; c, A. Walker; $3,600.
Benton, nr Railroad Ave—1-story ctg; o, G. Soule; day work; $1,000.

Willow—1-story ctg; o, J. N. Coleman; c, Pattiani & Co.; $3,250.
San Antonio Ave—1 story ctg; o, F. Peters; c, Pattiani & Co.; $1,950.

BERKELEY.

Oxford, nr College Way—1-story fr; o, L. Dunand; c, A. H. Broad; $1,800.
Dwight Way—2-story ctg; o, C. T. Wilkinson; c, Pattiani & Co.; $3,150.
University Grounds—Additions; o, State of California; c, A. H. Broad; $2,600.
Opposite Station, Berkeley—1-story fr; o, Hansen Bros.; day work; $500.
Dwight Way—2-story fr; o, H. Roach; c, C. R. Lord; $2,500.
Union, cor Alston Way—1½-story fr; o, Mrs. Wilton; c, A. H. Broad; $1,900.
Haste, nr Fulton—1-story ctg; o, Mrs. Cummings; c, A. H. Broad; $3,500.
University Ground Observatory—O. State of California; c, A. H. Broad; $3,000.

OAKLAND.

Seventh, cor Adeline—2-story fr; o, H. Sanders; c, A. B. Larmar; $3,000.
Eighteenth, nr Adeline—O, A. J. Larsen; c, F. Nelson; $1,500.
Kirkham, bet Seventeenth and Eighteenth — 1-story ctg; o, E. Thorsang; c, F. Nelson; $1,200.
Nineteenth, cor Adeline—Alteration and additions; o, F. Busby; c, G. A. Kirk; $4,000.
Thirteenth—1-story fr; o, Mrs. Jayne; c, Pattiani & Co.; $2,850.
East, cor Thirtieth—1-story fr; o, N. R. Johnson; c, Pattiani & Co.; $2,850.
Brush—1-story ctg; o, Miss Patch; c, Pattiani & Co.; $2,000.
Kirkham, opp Ninth —1-story fr; o, H. Snow; day work; $2,000.
Madison, nr Sixteenth—Four 2-story frs; o, Dr. Merritt; day work; $32,000.
Thirteenth, nr West—Additions; o, Mrs. Dr. Wilson; day work; $900.
Eighteenth, cor Kirkham—1½-story fr; o and b, H. Wirth; day work; $1,500.
Grove, bet Fourteenth and Fifteenth—2-story fr; o, W. H. Bayley; c, L. H. Campbell; $2,850.
Thirteenth, nr Jackson—2-story stable; o, Mr Upham; c, Knight & Littlefield; $3,000.
Thirteenth, nr Harrison—2-story fr; o, Mrs. L. R. Casey, a, Matthew & Son; c, W. Dahl; $3,000.
Castro, bet. Seventeenth and Eighteenth—2-story fr; o, H. Fife; day work; $1,000.
West, cor Fourteenth—Additions and alterations; o, W. Collins; day work; $1,000.

EAST OAKLAND.

Thirteenth, nr Fourteenth Ave—1½-story fr; o, N. R. Johnston; c, Pattiani & Co.; $2,500
Third Ave, bet Eleventh and Twelfth—1½-story fr; o, F. Clump; c, Robt. King; $1,000.
Fifteenth, bet Seventh and Eighth Ave—1 story ctg; o, F. C. Brower; a, Robt. Trice, c, Moody & Carpenter; $2,000.
Twelfth, cor Seventeenth Ave—1½-story fr; o and b, F. E. Brumker; day work; $2,000.

MISCELLANY.

San Mateo—Two-story frame. O., R. Winson; A., Copeland & Banks; $3,500.
Merced—Front. Two-story brick. O., Terker and Selver; A., P. Manning; C., Meacy & Peck; $7,000. Fourteenth. Frame building. O., J. S. Wright; A., P. Manning; C., Falla & DeWitt; $2,000. Seventeenth. Two-story and basement brick. O., Elkin Lewis; A., P. Manning; day work.

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THIS VENTILATOR is especially valuable for regulating draft (upwards and downwards) made by the light, unstable atmosphere of the Coast Range of Mountains. The hundreds of tall stovepipes erected on the chimney tops of houses indicate inconvenience and trouble in the kitchen, the parlor, and chambers below.

SAN FRANCISCO, October 26, 1885.

To whom it may concern:

I take pleasure in stating that the "None Such" Chimney Top and Ventilator, which was put upon the smoke-stack of the Baldwin Hotel about two months ago, has given complete satisfaction.

It has increased the draft to such an extent that there is a perceptible saving in the amount of coal consumed; smaller fires than heretofore will now answer to keep up the steam, thus causing a great saving of the boiler also. We have heretofore had much difficulty in keeping up the amount of steam steadily required, owing to the lack of draft, all of which is now remedied by the use of the "None Such" Chimney Top and Ventilator. I heartily recommend its use to all persons, where a strong draft is required.

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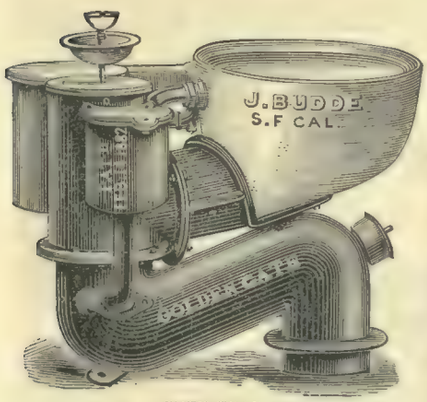
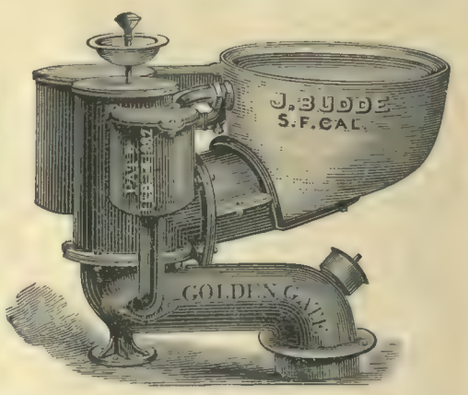
PATENT WATER CLOSETS



WITH TRAP.

The Golden Gate Plug Closet.



WITH OFFSET.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

Side View, Combination Hopper.

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has a soda movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval basin fastened to the cover by brass clamps and bolts. No breaking of putty joints required to renew a pan. The loosening of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

These Closets have been in use since February, 1883. Plumbers and wholesale dealers give them the best recommendation.

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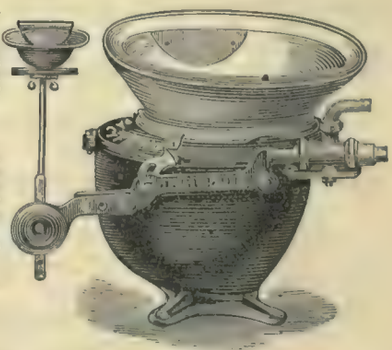

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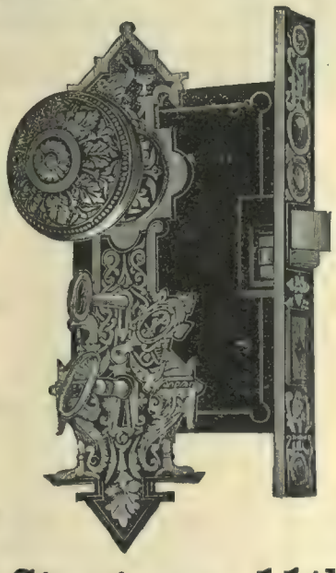

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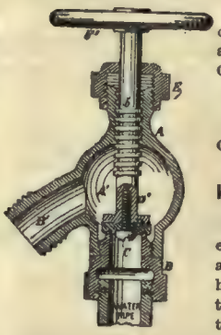

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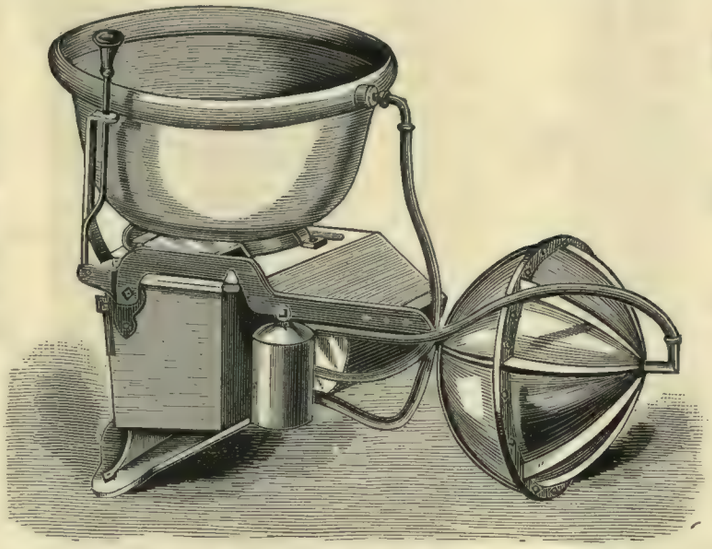
A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.



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Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns *every house* into a SANITARIUM, and is an assurance to those who trust it, that neither *sewer gas* nor *noxious vapors* that invade our houses freighted with *disease* and *death*, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! *It has no "overflow,"* rendering it a positive seal against *sewer gas* and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.

W. E. STEVENS, Sole Agent for San Francisco, N. E. Cor. Larkin and Market Streets.

It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Wate Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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MASON AND BUILDER,

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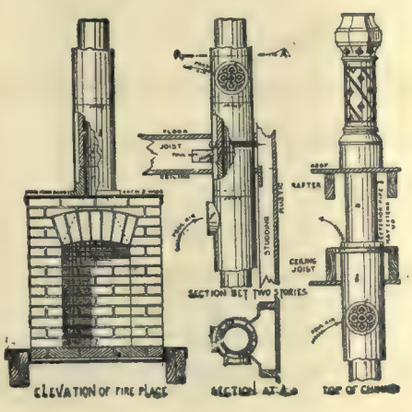

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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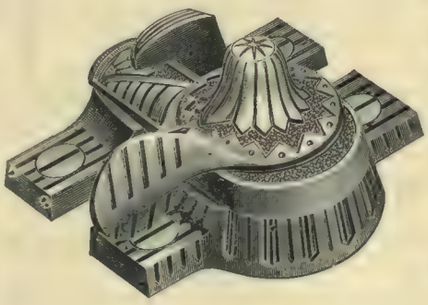

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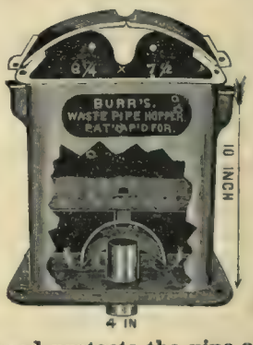

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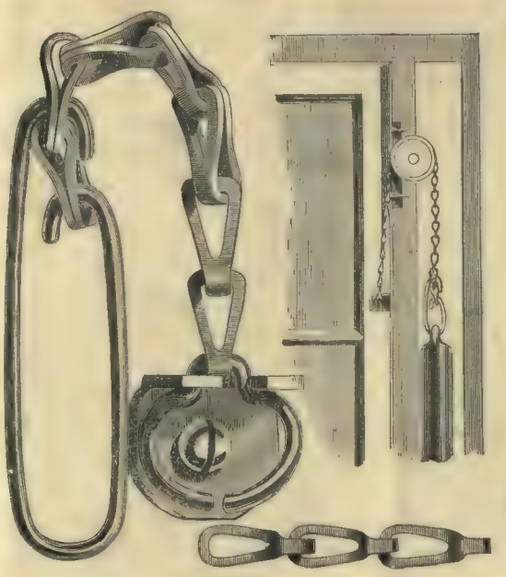

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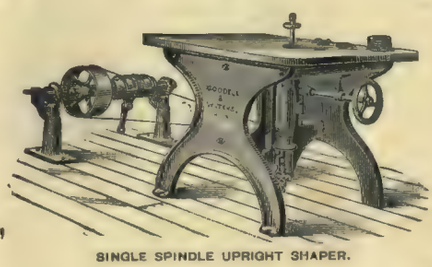

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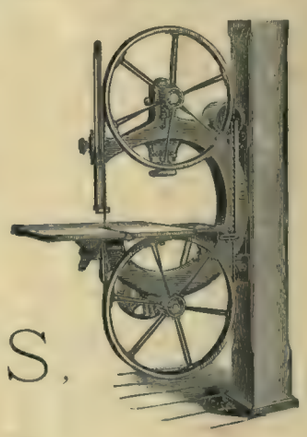

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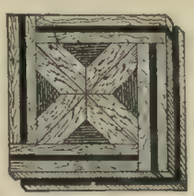

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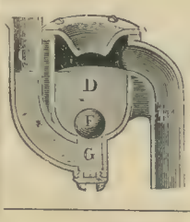

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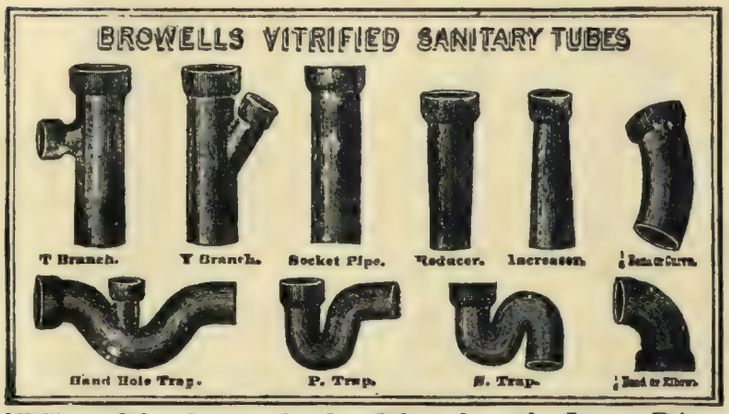

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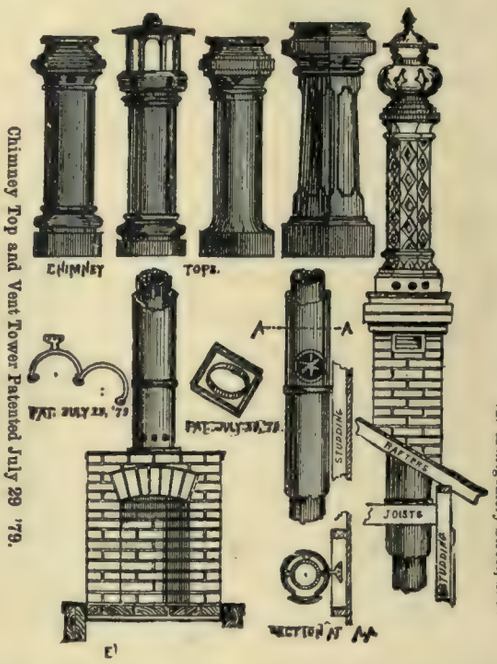

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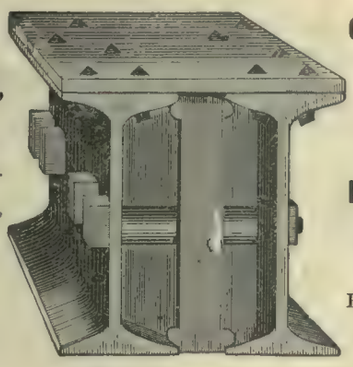

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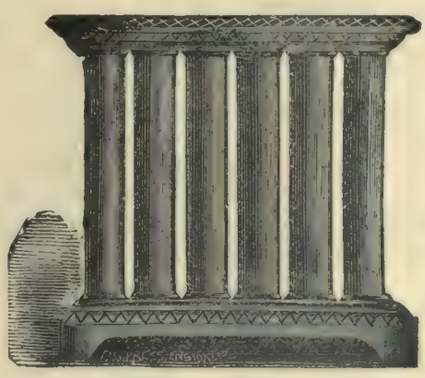

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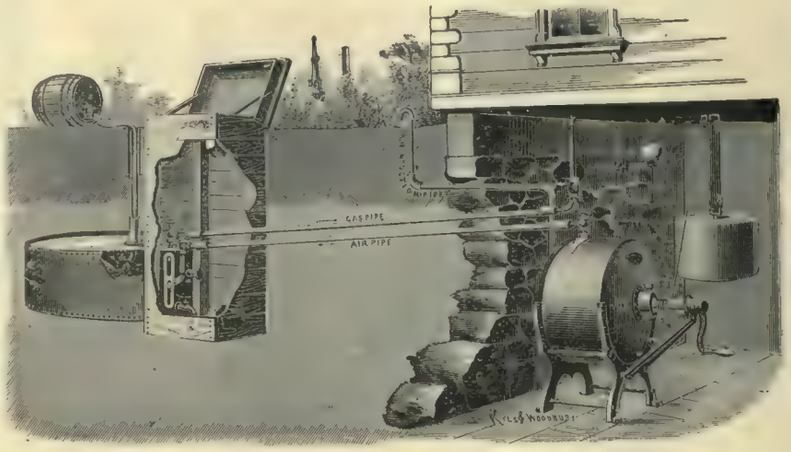

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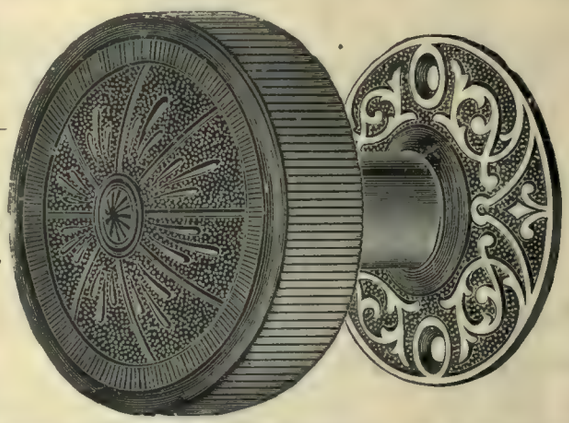

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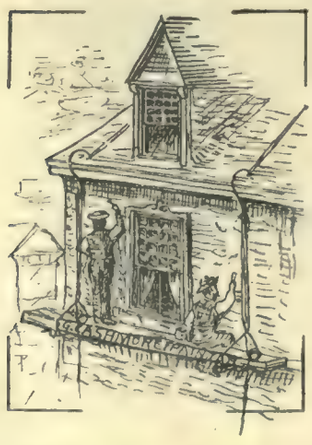

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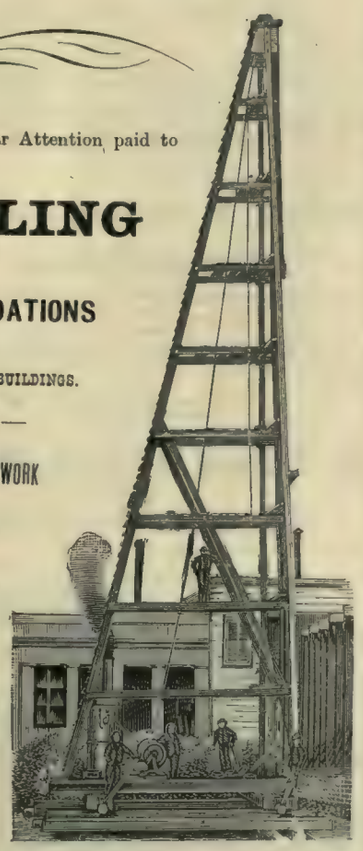

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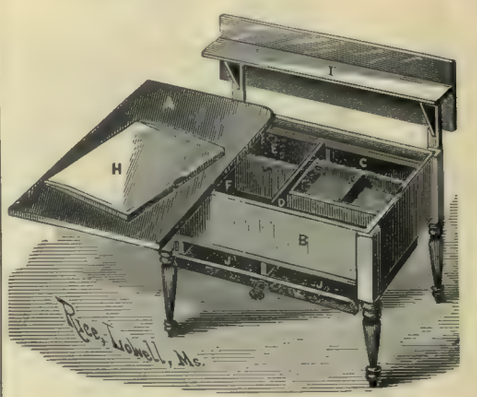

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SAN FRANCISCO, CAL., MAY 10, 1886.

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Material Facts for Owners' Consideration.

GOOD buildings are sometimes erected without the professional services of an architect. But whether as good and as complete as they would have been under the planning and superintendence of a competent architect, is a question. The proposition suggested is reasonable. For the incessant and perpetual study of an architect is to discover and develop new ideas, to determine and mature better plans, to overcome difficulties encountered in prior experiences, to provide against defects and errors which may have occurred, and in a word concentrate the entire energies of his mind and brain to producing improved results; and it is not reasonable to suppose that among men of equal intelligence, education, judgment, industry, and advantages, those who devote their time, and employ their mental and physical energies in special pursuits, can properly understand and practice their selected avocation, and, by incidental application, also understand as proficiently those specialties which others, their equals in all intellectual and physical senses, have made matters of constant study and daily application. Men generally master not more than one thing or calling, and as the "old saw" goes, "They that are jacks at all trades master none." We admit that there are a host of contractors who would have become most excellent architects had they so applied themselves. But a reasonably perfected knowledge of architecture can only be obtained by the possession of the natural qualifications of mind and judgment, and constant practice and study. Incidental scholastic and superficial knowledge does not, by any means, qualify men to assume the practice of a profession, than which no other requires the more intense exercise of every mental and intellectual faculty. Hence, we find men calling themselves architects who are simply pretenders, mere frauds, aspiring to be what they can never become, through fatal defects in their natural or acquired qualifications. But mistakes sometimes occur even with the best and most careful architects, and generally when no architect is employed, and most always when buildings are ntrusted to the manipulations and control of parties whose presumption is only equaled by their fearful lack of judgment, and complete ignorance of every correct principle of architecture.

Building Movements.

BUT little of more than ordinary interest has developed during the past month in building circles. Yet our monthly report presents a more favorable showing than has either of the preceding months of the present year. Our January report showed a gain over the same month for '85 in the sum of $45,535, which was followed by a falling off in February and March of $608,218. But May furnishes returns in building facts which places it $320,781 ahead of May of previous year, and so far recovers the lost ground of the two prior months.

The architects' offices generally in this city have been, and are well filled with engagements, so much so that we have not been able to find competent draughtsmen to fill the many orders sent to this office for help. The offices in San Francisco are well supplied, with but occasional applications for draughtsmen, and then always for *first-class, competent men.* From other parts of the State orders have been received, but in every instance with, "send us good man," thus indicating that the tendencies are such that it requires the best of architectural and draughtman skill to meet the demands of clients. But the supply has not been, and is not at present equal to the demand.

The prices of building materials and labor remains in favor of owners, and the fierceness of competition—if the recklessness illustrated by the figuring done by some contractors is worthy to be so denominated—removes all liability of contracts being let for more than a fair value on the transaction; and as often as otherwise the contract amount falls short of paying one hundred cents on the dollar at completion. So that, as a rule, gains and advantages are mainly with owners.

Some of the amounts given in our building intelligence list are but partial. Those on the Nightingale building, of $8,926, and on the Davis Bros.' building, of $34,185, being sums in addition to partial statements heretofore made on the same structures. The $249,500 on J. C. Flood's building includes only the carpenter work, $102,000; cast-iron work, $49,000; wrought-iron work, $45,000; grading, $5,500; and brickwork, $48,000. There are several contracts yet to be let. The summary for the month shows:

119	frame buildings	value, $496,126
4	brick "	" 312,870
18	alterations and additions	" 78,050
141	Total for current month	$887,046

CORRESPONDING MONTH OF 1885.

147	engagements	total value, $566,265
	Gain in May, 1886, over same, 1885	$320,781

THE exigency of getting a living, and this is especially true in large towns and cities, compels many children to begin work when they ought to be at school. This is unpleasant, but it is nevertheless a fact. As labor makes the wealth which pays taxes, it is no more than an act of justice that children thus compelled by circumstances to work through the day should be provided with facilities for pursuing in the evenings the studies they have dropped. To this end evening schools, including those equal in every respect to the "high schools," now a part of the school system of most towns and cities, should be established. This would enable many an ambitious young man to do with greater dispatch and less labor what he will probably do anyway, viz., acquire a fair education of the kind attained in schools. In these times the need of education is pressing, and every facility for its acquirement should be provided. As previously intimated, a young man of the right quality is likely to learn anyway, but as the labor of those who are obliged to work in years when they ought to be at school goes to enrich the community, they have a right to demand that the way be smoothed for them. —*American Machinist.*

THE State Department at Washington has issued a pamphlet belonging to its series of U. S. Consular Reports, entitled "Scouring of Wool in Belgium, Great Britain, and Germany." The pamphlet illustrates three machines used in Belgium for this purpose.

Bay Windows over Street Lines.

SAN FRANCISCO has been, and not inappropriately, styled the city of bay windows. Within the past twenty years or more, but very few—safe to say not more than two and one-half per cent—of all dwelling and tenement houses erected within the county limits, other than those in the erection of which the closest economies have been practiced, that one or more bay windows have not been added. When attached to buildings sitting back from the street lines, the number and sizes are always regulated by the pleasure or caprice of the owner or architect. But when projecting over the lines of streets, the sizes are supposed to be regulated by the "fire limit laws," which prescribe both width or spread, and projection beyond the face of the walls.

Until recently, the limitations as to sizes have been a source of annoyance and vexation to both architects and the fire warden's department of the city government. The limit of spread across the front has heretofore been entirely too restricted and arbitrary in all cases; so that an architect in preparing plans was allowed no greater privilege in proportions in a frontage of twenty-five feet, than he would be entitled to apply in one of eighteen feet, with the restricted width of eight feet no greater than would be proper for the eighteen feet front. Consequently, buildings of greater cost, size, and pretensions were denied the proportionate necessary increase of spread.

CORNER BAY WINDOWS,

Until the recent amendment, were also prohibited by the ordinance. But the ordinance being so framed that parties with *sufficient influence* might, and often have danced through its loose meshes by securing permits of privilege *not common* to all, except through channels not understood by some, who recognize ordinances passed by the proper authorities as *general and conclusive* alike upon all. Hence the iniquitous *special permit* practice worked injustice; for even if two parties applied for like privileges, the one being in good favor or possessing the necessary influence outside the true merits of the case, and the other having in some way rendered himself obnoxious, or gained disfavor in certain directions, the one might, and in cases has been denied privileges granted to the other. This sort of thing has been done in this city in many cases of "special permits," other than bay windows.

THE ORDINANCE AMENDED.

The universal objection to the restrictions enforced by the original ordinance, and the numerous conflicts encountered by the guardians of the law in the matter of bay windows—architects and builders generally disregarding the limits prescribed, and exercising their individual judgments in the matter—the amendments following have been passed by the Board of Supervisors, and are the law in the case until changed by subsequent municipal legislation.

ORDER NO. ——.—Amendatory of Sections 27, 36 and 38 of Order No. 1,752, to define the Fire Limits of the City and County of San Francisco and making regulations concerning the erection and use of buildings in said City and County.

The People of the City and County of San Francisco do ordain as follows:—

SECTION 1. Section 27 of Order 1,752 is hereby amended so as to read as follows:—

[Bay or Oriel Windows—Swell Fronts.]

SECTION 27. No person shall build a bay or oriel window which shall project over the line of any street more than three feet, or more than nine feet in width, nor shall the bottom of said bay or oriel window be less than thirteen (13) feet from the sidewalk. No bay or oriel window shall be constructed upon any street, lane, alley or place which is less than thirty-five feet in width. No swell front shall be erected unless the walls are entirely of fire-proof materials, and no bay or oriel window shall project from any swell front. Bay or oriel windows constructed in frame buildings shall have piers or spaces of not less than five feet in width between them. Bay or oriel windows constructed in brick buildings shall, for a two-story building, have piers of not less than six feet in width between them, and for a four-story building, the piers separating said windows shall not be less than eight feet in width; and no bay or oriel window shall be more than four stories in height above the sidewalk. No bay or oriel window shall be erected on the corner of any brick building. The joists of bay windows in brick buildings shall be supported on lintels of iron at each story, said lintels to be the full width of the wall and rest eight inches on each jamb, and the top of the openings shall be covered with a brick or stone arch. The exterior framework of such bay or oriel windows constructed in brick buildings shall be covered with fire-proof material.

SECTION 2. Section 36 of Order 1,752 is hereby amended so as to read as follows:—

[Scuttles and Skylights in Roofs.]

SECTION 36. All store buildings over one-story in height in the City and County of San Francisco, whether already erected or hereafter to be built, shall have scuttle frames and covers or bulkheads and doors made of or covered with some fire-proof material; and all scuttles shall have ladders leading to the same; and all such scuttles or bulkheads shall be kept so as to be ready for use at all times, and all scuttles shall not be less in size than two (2) feet by three (3) feet; and if a bulk head is used or substituted in any building in place of a scuttle it shall have stairs with a sufficient guard or handrail leading to the roof. The door in the bulkhead or any scuttle, shall at no time be locked, but may be fastened on the inside by movable bolts or hooks.

All skylights of buildings outside of the fire limits where placed less than three feet in height above the roof shall be enclosed with a substantial railing not less than three feet in height. Within the fire limits all skylights exceeding twenty superficial feet shall have the frame and the sash formed with iron, and if not glazed with glass, three-sixteenths of an inch in thickness, shall be covered with protecting screens of No. 10 (or heavier) wire with meshes of not more than one and a half inches, said screens to be secured to the iron frames at least three inches from the glass.

SECTION 3. Section 38 of Order 1,752 is hereby amended to read as follows:—

[Removal of Dangerous Walls, Buildings, Chimneys, Smokestacks or Other Appurtenances to a Building, Sheds or Fences.]

SECTION 38. Whenever, in the judgment of the Board of Fire Wardens, any building, wall, chimney or smokestack, or other appurtenance to a building, shall, from any cause whatever, be in a situation to be dangerous to persons or property; or when any wooden building within the fire limits shall, in the judgment of the said Board, be damaged by fire or decay to the extent of forty (40) per cent of its actual value, to be estimated above the line of sidewalk in front of said building, the Board of Fire Wardens shall immediately give notice to the owner or owners of such building, wall, chimney or smokestack, or other appurtenances to a building, sheds or fences, or to his, her or their agent, or the person having the control thereof, if the owner cannot be found, to remove the same forthwith; and the person receiving such notice shall, within forty-eight hours after receiving the same, comply with the requirement thereof. In the event of a dispute as to the amount of damage caused by fire between the owner and the Board of Fire Wardens, said dispute shall be determined by arbitration of competent mechanics, the owner to select one arbitrator, the Board of Fire Wardens the other; and in case that the arbitrators so chosen cannot agree, they shall select a third, and the decision of the majority shall be final and conclusive—all expenses of the arbitration to be paid by the owner.

Heretofore, corner bay windows have not been allowed, and still are forbidden in the erection of brick buildings. But Section 27 as amended, omits frame buildings from this restriction. Consequently, those who desire them, can erect corner bay windows at the intersection of any two streets, over the sidewalk, where the distance from the sidewalk to soffit of the bay is not less than 14 feet.

A Queer Suit against an Architect.

THE story runs thus: Some year or more ago, a lady called on Mr. T. J. Welsh, architect, and entered into an arrangement for plans, specifications, etc., for two buildings, to cost $10,000. The agreement for compensation was fixed at five per cent for full professional services, and two and one half per cent should the buildings not be erected. They were not, and the architect allowed his claim to remain unsettled until—to save an "out-law"—suit was commenced in a justice's court for the sum of $250, being the agreed sum for plans, specifications, etc. Rather than meet the case in court, the lady, by her attorney, proposed a compromise, and the claim was settled for $150, and receipt in full passed. No demand at the time of settlement was made by the client for possession of the plans, etc., but a few days afterward, the architect was asked to surrender possession of the papers. This he refused to do upon the ground that all plans, drawings, and specifications were the property of the architect producing the same, and that the client had no right to their possession, beyond the uses to be made of them in case the work went on.

The lady client not being satisfied with this, upon advice of her attorney, commenced an action against the architect to recover the plans, etc., and also the money paid him, claiming that he had not performed his contract with her. The case occupied about a full day of the time of the court, and the testimony adduced by the architect proving conclusively, that by the rules of architectural practice in this State, and generally throughout the United States and in Europe, the plans and specifications made by an architect are his, and not the client's possessory property, beyond the uses for which they are intended to be applied in the progress of the work proposed to be done under them. Judgment was rendered in favor of the defendant.

This decision, as far as it goes, establishes the rights of architects and owners in reference to the ownership and possession of plans, etc., even if paid for by the client. An architect is not supposed to sell his plans, drawings, and specifications, but simply to embody and delineate on paper his own and his client's thoughts and ideas, shaping and utilizing them to best advantage; and the compensation received for services goes no f rther than payment for his professional knowledge and skill in producing the desired results, to be exemplified in actual construction in case the work goes on.

This may appear to some as a hardship upon owners, but it has another bearing of great importance to architects, who, as a rule, suffer injustice every time they part possession with plans, etc., worked out by them, as thereby they lose control over the results of their studies, and make it possible for others to reap the benefits which should be enjoyed by the men who conceive and shape the form of thought, and mechanical and professional ideas which might never have been conceived by others in the same form. It is simply retaining possession of the thing legitimately owned.

Great Influx of Strangers.

AS the result of the railroad war and low fares, very many thousands of people, representing nearly every section of the United States, have "come to see California" generally, and San Francisco in particular; some from motives of pleasure and curiosity; others uniting with these, business objects and interests, and possible permanent abiding in this State or city; and a large number of working people inspired by the hope that the demand for labor upon this coast would be such as to give employment to all wage-earners who might avail themselves of the unprecedented opportunities afforded by the railroad people of crossing the Continent "for a song." Of the latter,—those who have come to California with no other expectation or purpose than to find work as journeymen mechanics, artisans, or laborers,—a very large proportion must meet disappointment; as

the labor market was well supplied before the commencement of the great rush of visitors or immigrants which has within a few weeks added so many thousands to the number of strangers "within our gates."

The people of California would only too gladly welcome that condition of things which would give employment to tens of thousands of the hardy sons of toil, other than those whose homes for years have been in this city and State; but with no new special developments in business enterprise, nor any unfolding in any direction demanding an increase of skilled or unskilled labor, over and above the resident supply, it is impossible that more than a limited number of the more persevering and diligent seekers should find employment.

New discoveries, requiring large forces to operate them, or offering inducements to those willing to risk the uncertainties of fortune in pursuit of prospective results; the expansion of great interests and improvements demanding a large amount of manual labor, and the employment of thousands of working people to prosecute them, present inducements and justify the concentration, and gathering together at available points of a sufficient number of men to meet and supply the demand. But a rush of people to a given center, where none of these exigencies exist, and all the conditions are normal, with supply fully equal to demand, disappointment must result to some.

A CHANCE FOR EARNEST MEN.

Although what we have written expresses the general condition of things in California, as far as any considerable number of wage-earners recently arrived are concerned, there are nevertheless, reasonably well sustained good prospects for a goodly number if *really competent and qualified men* to find employment. This of course will depend largely upon the earnestness with which each in his respective calling shall seek to secure an engagement. The chances for the competent and skillful men are fair, but those who are not will find it difficult to obtain more than incidental opportunities to labor as per diem workmen.

This however may be added—that the element of versatility and progressiveness abounds in California, and there are doubtless very many as yet undeveloped means, methods and channels of business successes and enterprises possible of introduction in this State; so that those who may fail in the realization of their first conceived purposes, may, by the exercise and practical application of that genius so universally accorded to the descendants of the Pilgrim Fathers, lead to results of—at present, unthought of magnitude. Necessity is said to be the mother of invention, and it is to be hoped that many who have come, not finding openings ready made for them, nor grooves run, into which without effort they may settle, will go to work and make openings and plow new grooves in which to operate, alike with profit to themselves and benefit to the general interest. The resources of California are by no means exhausted, but remain awaiting further developments which, we hope, will, in many directions, be stimulated by the massing of so many new people on this coast at the present time.

The Growth of San Francisco.

VIEWED from the early days—the time when the briny ocean tides ebbed and flowed over nearly every foot of that portion of the city now occupied by substantial brick buildings in which the great bulk of importing and mercantile business

is at present transacted; the days when steam-ships of three, four, and five thousand tons lay at anchor, or securely moored to piers and wharves, three and four blocks in-shore-ward from the present eastern bulkhead or water front; when the block upon which the present post-office and appraisers' building was so deep in mud and tide water that the bottom could not be reached by the longest pile possible of being driven for foundation purposes; when the entire site of the city was subdivided into valleys, by high hills of natural formation, or ridges of sand ground, and thrown up by the ocean upon the western shore of the peninsula, and by the winds driven across land and piled up in sand hills and dunes, to altitudes towering above the tallest buildings,—San Francisco rightly stands as a marvel of energy and enterprise.

The amount of money expended in cutting and filling to produce the present contour of the city's surface, would be sufficient to purchase the land out and out, and to erect substantial buildings for a city of twenty-five thousand inhabitants in any other new and promising section of country.

The present and prospective greatest business street of the city, Market Street, as late as 1858, was, west of Third Street, a continuous sand hill diverging northerly after passing Fourth Street, thereby forming "St. Ann's Valley," including the site of the present Baldwin Hotel and Theater, with the location of which California tourists generally are familiar.

Golden Gate Park, now ranking well, and destined in time to be second to but few in the United States as a public park, was, but a few years ago, a barren, desolate waste, covered with sand drifts and dunes, and stunted growths, seemingly ashamed to claim membership in the tree family.

But with all these drawbacks and disadvantages, the city now spreads itself over many square miles of territory, and the expansion still continues; while the vacant places within the older limits are being filled up with permanent structures, many of them being in pretensions and cost, "good enough" for the better parts of the metropolis of the United States.

From time to time there existed the spirit of complaining and business grumblings that things were not better, and money making less easy than in the early days of California's existence. Still the car of progression has rolled on and is still advancing, and even many of those who have complained most, have become rich or well to do. And taking in the entire situation, it is reasonable and altogether likely, that within a generation from the present time, San Francisco will spread to fully twice its present size, and double, if not triple its present number of inhabitants.

As far as its building improvements are concerned, about one-tenth of the city is included within the fire limits, within which brick, stone, iron or other indestructible material alone is permitted in the erection of buildings. But beyond these limits, wood is used exclusively, except for business structures. The most costly residences are, with a single exception, wood constructions, including the private residence of Senator Leland Stanford; that of the late Mark Hopkins, costing about $1,000,000; the residence of Chas. Crocker; Senator Herst; Porter Ash; and many others of the millionaire class.

J. C. FLOOD, BANKER,

Being the only notable exception; his city residence now in course of completion being of imported stone, brick, etc. No small amount of reflection has been cast upon Mr. Flood, in view of the fact that his great fortune has been drawn mainly *from the pockets of the people of this city and coast,* and the universal sentiment is that it would have been but a small act of justice on his part to have confined his expenditures to and among those, and the community in and from whom and which he has gathered his great fortune.

The street and section of the city where the Stanford, Hopkins, Crocker, Flood, and other mansion residences stand, was, as late as 1860 or later, a rough, ungraded hill-top, covered with sand and shrubbery, and by no means desirable, being over 300 feet altitude above tide level, and adjudged unsuitable for practical life, owing to the difficulty of assent. But the grand view afforded from this elevation, taking in the whole scope of country over land and water, from all parts of the compas, was indescribably inviting and fascinating, and by degrees the tax upon limbs and muscle to make the ascent, yielded to the magnificence of the prospect when home was reached.

THE CABLE-STREET RAILROADS.

When this device as a street-car motor became a certainty, a demonstrated fact, hills no longer bore a forbidding aspect. When it was made sure that the ascents up steep grade could be made with the same ease and personal comfort, and a great deal more of scenic and romantic luxury than on level roads, the hill-tops so far as traversed by the new mode of travel, soon gained favor, and advanced in value more than double within a single year.

These cable roads have not only helped and improved hill property, but in every direction where they are operated, prop-

erty has advanced in value, and thousands of people of moderate means have been enabled to secure comfortable homes with ample grounds, long distances from business centers, yet rendered practically not far away by the splendid means provided in almost all directions, of traveling by cable road at the rates of five to eight miles per hour, at a cost of five cents for a distance of three or four miles—more or less.

LOOK WELL AHEAD.

With all that has been accomplished, with all that is, and with all that appears in the future, it must be conceded that great things have been achieved in San Francisco; that with all the vices, immoralities and cosmopolitanism permitted within her borders; with all that might have, but has not been done for her greater improvement and prosperity, she presents a record in fact unequaled by but few cities in the Union.

Science of Architecture.

[Special for this Journal. By F. HILLERT, Architect and Mechanical Engineer.]

(*Continued.*)

TO make a reliable scale, and to measure the same temperature felt everywhere alike, two cardinal points are selected and fixed, depending on the invariability of the freezing and evaporating point of the water; those points carefully fixed, then the space obtained by expansion, being divided in respectively 100 parts for Celsius and 80 parts for Reaumur, called the positive or + degrees of temperature, negative or − degrees below the solidification of water, used for the measurement of cold temperature. On the continent of Europe these scales are most in use, for all days and scientific purposes; for the last are the most convenient and best adapted. We here and in England use Fahrenheit scale. The zero point is the freezing point of quicksilver; 32 degrees of the same correspond to the zero point of the other scales, and the temperature of the boiling water at respectively 80° and 100° corresponds to 220° of Fahrenheit. Are Fahr., R., and C., the respective scales above named, then are, comparatively, Fahr. $= 32 + \frac{9}{5}$C. $= 32 + \frac{9}{4}$R.; C. $= \frac{5}{9}$ (Fahr. $- 32$) $= \frac{5}{4}$R. R. $= \frac{4}{9}$ (Fahr. $- 32$) $= \frac{4}{5}$ C.

Metallic thermometers are used for the measuring of temperature, and the action of them depends on the different expansive capacity of the different metals to be used. When two or more strips of different metals of different expansive tendency are fastened together, the action of heat will bend them; caused by the different expansion of the metals joined, giving hereby means to ascertain the temperature existing. They are used for measuring high temperatures up to 900° Celsius, when quicksilver thermometers cease to be reliable.

The term "absolute heat" is used to scale the expansive capacity of gases, and begins with 273° below zero of the centidegree scale. It is the point where the expansive capacity of the air form bodies ceases. (Is it the freezing point of air?)

The absolute temperature for 20 centidegrees is equal to $273 + 20 = 293°$ absolute.

The metric system retained, is adopted by Federal law, besides our scales in use. It originated during the French first Revolution, and was intended for general adoption. The spirit of the social French Revolution was extended and made serviceable to science. It was acknowledged as necessary to change the old system of weight and measure, and substitute for it a natural unit of measure, *i. e.*, one existing in nature, which, when lost, could be found, and used again. The leading French savants, Borda, Lagrange, Laplace, Monge, and Condorcet, used the proposition as means for the measurement of a European geographical degree, to recommend the establishment of a universal unit of measure, which was found to be an aliquot part of the earth's meridian. After the completion of extensive labors by a commission, was, on the 9 frimaire VIII. (29 Nobr. 1800) as result of this measurement, the 10,000,000 of a meridian quadrant—443,296 old Parisian lines as the true and definite meter—proclaimed and adopted. In the meantime it has been acknowledged, and the impossibility to find a natural measure, to which the experiment with a pendulum, swinging seconds, has considerably added. The metric system has been established in France, Belgium, the Nederlands, Italy, Portugal, Greece, and Roumania and made obligatory in Germany and Austria. The change requires extensive labors to change measures, formulas, and calculations to the metric system, of which nations shrink, having not the taste and time for scientific progress.

1 meter	is equal to		3.23 feet
1 square meter	is equal to		10.76 square feet
1 cubic "	"	"	35.31 cubic feet
1 foot	"	"	1.305 meter
1 square foot	"	"	0.092 square meter
1 cubic foot	"	"	0.028 cubic meter
1 inch	"	"	2.54 centimeter
1 square inch	"	"	6.45 square centimeter
1 cubic inch	"	"	16.38 cubic centimeter

To measure the velocity of the air, anemometers are used. The instruments in practice, therefore, are Rotatory Anemometers, consisting of a very small, light-winged wheel, made of aluminum, and being propelled by the pressure of the air. An indicator, attached to the spindle of the wheel, furnishes the number of revolutions made in a certain time, from which the velocity of the air, with the aid of a constant, found for each instrument separately, can be obtained.

The common Rotatory anemometers are used to find the mean average velocity, but do not give any variations in the velocity of the current during the operation; if not, special arrangement (not frequently found) of the electric and acoustic kind, are attached. These apparatus are best fit for longer periods of observation. By them can only be found the mean quantity of air passing through a channel of a certain section during a certain period of time, *i. e.*, one hour under given conditions; for example: for the examination of the effect of a ventilation arrangement for the contracted and guaranteed quantity of air to be furnished.

Since the velocity of the air in the different places of the channels in general will not be the same; since, farther, by the introduction of the anemometer in the channel a small decrease in the same and a consequent deviation in the direction of the current is made; also the constant of the instrument to be reliable after a certain time, must be found anew and from other causes, those measurements of velocity can only give approximate results, with which we must be satisfied, since means are wanting and have not been found up to this time for a complete and correct measurement of the velocity of the air.

Another kind of anemometer is the statistic, *i. e.*, those which give the momentary velocity of the air, to be seen direct on a scale. They are best suitable for a controlling apparatus, and for the correct working of the ventilation system.

The above described instruments are only fit to measure the velocity of the air when the same is neither too hot nor too much soiled, and are unfit to measure the draft in a chimney, or heating arrangement. Other instruments are therefore constructed. To regulate the current of air in the channels, throttle valves, slide valves are used.

To measure the degree of moisture contained in the air, hygrometers are used. These instruments have not the purpose to give the value of the moisture, but only the proportion between the moisture contained in the air at present to that contained in it of the same temperature, when the same would be in a saturated condition. This ratio is designated "the relative moisture."

The point of saturation (thaw point) is different with the different temperatures, and the following table furnishes the quantity of moisture contained in 1 cubic meter of air at the state of saturation.

− 20 °C	1.06	gr. water	+ 15 °C	12.81	gr. water	+ 60 °C	129.80	gr. water
− 15 "	1.39	"	+ 20 "	17.23	"	+ 70 "	177.41	"
− 10 "	2.39	"	+ 25 "	22.95	"	+ 80 "	290.88	"
− 5 "	3.36	"	+ 30 "	30.23	"	+ 90 "	420.52	"
+ 0 "	4.89	"	+ 35 "	39.51	"	+ 100"	591.92	"
+ 5 "	6.81	"	+ 40 "	50.95	"	+ 112"	860.	"
+ 10 "	9.38	"	+ 50 "	82.72	"	+ 120"	1,120.	"

According to the present state of investigation, a degree of saturation of the air of from 40 to 60 per cent is the most favorable for the human health.

There are two different kinds of hygrometers. The first kind is based thereon, to decide for the moisture presently contained in the air, the temperature of the thaw point, and from the same under assistance of the actual existing temperature of the air to find the percentage of saturation; the second kind of instrument uses the changes of a delicate hydroscopic body produced and conditioned by the moisture of the air for the direct finding of the percentage of saturation. The last kind of hygrometer is for use the most recommendable, and are those of Saussure, and others. The first kind are those of Daniell, August, and Regnault.

Apparatus for moistening the air. With air heating the moistening is mostly done by placing open vessels filled with water in the heating chamber. The filling of the pans (arranged for a variable water surface) and the control over the same must be done from outside of the heating chamber.

This method of moistening the air is incomplete. An improvement can be made when the water pans are so arranged that the air warmed by the heater is compelled to pass over the surface of the water. For this purpose the heating chambers in a certain height are divided into two compartments, in one of them water pans are placed (arranged with overflows), one on top of the other, with spaces between them, compelling the heated air to pass over the water surfaces. The effect of moistening is certainly increased with the increase of water surfaces. Approximately can be taken, for each square meter of the channel, 15 square meters of water surface.

A self-regulating apparatus may be constructed which will fulfill the condition that when a certain desired state of moisture is passed, the apparatus will discharge, self-acting, the wanted quantity of water. A hygrometer of a separate construction closes an electric current, which opens a valve by means of an electric magnet, discharging steam or water spray so long, until the desired degree of moisture is regained, when the interruption of the electric current will close the valve and stop the flow.

The reason of writing the above was a displeasure felt by the passing and enforcement of certain municipal laws—and other matters—which are and were erroneous, having no basis. They create displeasure in society and do not give the comfort and protection which a beneficial law should. Once begun, one subject leads to another on the same scientific matter; it is inexhaustible, and may be proceeded with by abler men.

Practice was the forerunner and the foundation of the sciences in the course of progress of human culture. The fire made by friction by the primitive man, to prepare his food and to warm himself when cold, compared with the making of steam for preparing all raw material by mechanical process for the protection and comfort of men; and with chemical process by decomposition, etc., for explosives and thousands of other things, is only a slight illustration.

There has been a cry by practical men against theory, when hardly anything can be and is done by them without using the intellect, either direct or indirect. The men, for instance, attending to a shaping machine; the Chinamen, attending to the loom, work under and use the spirit and genius the inventor placed in the machine, requiring of him only the mechanical labor as attendant. They do not wish to acquire, and have not the scientific knowledge; hence criticise and condemn what they do not understand-

"Hard" and "Easy" Stairs.

THERE is no feature in house and building construction which should be more carefully considered, or receive greater attention from architects, than the stair work; as the stairs are a part and portion of the edifice used by every one, young and old, in passing from story to story, and a sense of fatigue or comparative comfort follows each successive assent.

The architect may not, and is not supposed to understand as fully as the skillful stair builder, the many practical details of construction, gained and made perfect by daily and incessant application; or the science of obtaining the numerous intricate lines, cuts, bevels etc., involved in stair-building; but he should understand most perfectly every requirement necessary to produce stairs that will afford the greatest amount of comfort to those who may use them.

Stair builders are never to blame for "hard" or uncomfortable stairs, *when controlled by plans made by another.* Whether "hard" or "easy" depends altogether upon the allotment of space for construction. The limitation of horizontal distance for run, to vertical height from floor to floor for rise, at once determines results; for if the run is made less than it should be, as compared to the height or rise, no amount of money that might be expended, nor the skill of a thousand stair builders, could pos-

sibly prevent the curtailment of comfort resultant from the lack of sufficient horizontal space.

The rise, height from floor to floor, is absolutely arbitrary, admitting of no concession or compromise; and upon this fixed factor, all other calculations in stair building must be based; so that ease and comfort, or hardship and fatigue, depend wholly upon the proper accommodation of run to rise. Hence, if the architect restricts the space within which the stairs are to be built, to less than what is necessary for the purpose, he thereby establishes an insurmountable obstacle to *easy*-stair construction; and in every case where the ascent of a flight of stairs is not comparatively comfortable, the responsibility rests upon the party designing and planning the same, whether stair builder or architect—if an architect is engaged, and his plans limit the space of run and rise for the stairs, he alone is responsible for the results. No stair builder, however skillful he may be, can possibly make easy stairs where the horizontal and vertical distances are not proportionately correct.

PROMOTERS OF AILMENTS AND DISEASE.

The importance and materiality of the subject-matter under notice is much greater than most people suppose. "These stairs do tire me so;" "It puts me all out of breath to go up these stairs," etc., are perpetual and incessant expressions, particularly with the feeble and aged; and frequently smart and active people find themselves well out of breath by going up-stairs a little lively; all of which goes to set up the fact that a vast amount of physical force and energy is required and expended in the ordinary use of stairs—millions of people the world over, being every moment of time in the act of ascending or descending these indispensable house conveniences. And the fact is well known, especially among the medical fraternity, that "climbing stairs" is a most injurious exercise to weakly and ailing persons—those not blessed with strong physical frames and sound lungs. The doctor's prohibit is placed upon multitudes, and untold numbers of prostrations upon beds of suffering have origin in too much stair exercise. And this being true, that ascending stairs is hurtful to those who are not strong, is it not an extra tax upon the strength and energies of every man and woman who is required or compelled to pass from floor to floor by means of stairs? It is more tiresome to even the strongest and stoutest of men to ascend stairs to the height of fifty feet, than to walk on level ground twenty times that distance. Although a man might, and very possibly could, "walk all day" without exhaustion, it is doubtful whether a human being could be found, capable of enduring the fatigue of one single hour's continuous ascent of stairs, particularly of those denominated "hard" to ascend. The strain upon the muscular and physical forces would be far too great for human endurance. It is questionable whether in the entire population of San Francisco a single individual exists who would be able to perform the feat, and if found, the condition at the ending of the performance would be

EXCEEDINGLY DILAPIDATED.

All this serves to verify the common every-day experiences and aversions in families and among business men and people generally to the use of stairs. The ever-present disinclination in this regard remains unexpressed from the force of circumstances, —the compulsory ascent of stairs as the only means of reaching the upper stories. People do not "go up-stairs" for any pleasure found *in the act* of going up. There may be pleasures reached through and by the act, but not *in* its performance. And it is safe to say that if necessity, curiosity, or some other special incentive never existed, rendering the use of stairs more or less compulsory, they would remain unused.

Stair building is one of the necessities created by the huddling together of communities of people, in cities, towns, and villages within limits which require structures of more than one story in height, to furnish appartments sufficient for the purposes of business and domestic life. When mankind dwelt in tents, and spread their dwelling-places over large tracts of land, the stair builder was unknown. But the centralizing and contracting effect of civilizing brought about the necessity for buildings with multiplicity of stories, to utilize which, stairs became an indispensable requirement as a means of reaching the several levels placed above one another; and for ages they have been submitted to as an evil without remedy. But during later years,

NUMEROUS DEVICES IN PASSENGER ELEVATORS

Have been invented and brought into practical use to relieve and obviate the fatigues and exertions of "stair climbing." And hundreds of thousands of persons who are "*afraid of elevators*," and speak of them as "*dangerous*," are nevertheless willing to "*risk their lives*" upon these "*dangerous contrivances*," to avoid the discomforts of reaching upper stories by means of stairways.

All this goes to show that stairs, while a common necessity in house construction, are more a source of enforced convenience than of comfort and healthfulness. And being so, their most perfect apportionment of run and rise should receive the most skillful and careful consideration, as no amount of expenditure of money, nor all the elegance and beauty of design or workmanship, can relieve the extra hardships imposed upon those compelled to use stairs not built in conformity with the best understood rules productive of "easy stairs."

What Is the Difference?

SOME of our readers may think that too frequent reference to the subject of sewer gases, is made in the columns of this journal. If health and life are immaterial considerations, then it is true. If they are important and valuable, then too much cannot be written or said. There is no intelligent person who will presume for one moment to dispute or deny, that where those poisonous vapors are breathed day and night, sickness and death must ensue. Their fatal character is beyond controversy, and the rapidity of their work depends only upon the quantity inhaled.

Reader, permit us to suggest the following: If a man should fell his wife, mother, child or friend to the floor by a blow, and he or she should die from the effects of the blow, would not a death be caused by the hand of him who struck the blow? Or if either should be pushed into the waters of the bay, and were drowned, would not he who did the pushing be responsible for the death? In either case, it would be murder, homicide, or manslaughter. Now then, if a man builds a home for his family, and its construction, appointments, and defects are such that the sewer gases are admitted, and loved ones die from the effects of those gases, is it any less a death? The blow caused death, the drowning caused death, and the gases caused death. The only difference is in the manner and circumstances of the cases. We shall not presume to say that there is the same degree of guilt in either case, but that the result is the same is certain. A man, woman, or child when killed, is *killed*, the only remaining question being the means and manner of producing the death. And when death occurs, whatever may be the cause thereof, the usual stereotyped notice occurs, "*In the providence of God, etc., it pleased the Lord to call him or her away*," thus making the Almighty responsible in all cases, while in so many instances in this connection sickness and deaths are caused by men assuming to know a great deal, yet possessing but a small amount of proper, practical knowledge in many important respects in the erection of homes for their families; doing, or permitting things to be done, at variance with all right rules and principles familiarly known to all intelligent physicians and architects to involve dangerous risks, if not fatal consequences. If the Almighty Being has anything to do with such cases, he simply makes fools of men, causing them to build imperfect and incomplete houses, and employ incompetent men to plan them, and others to execute the blundering work, so that he may kill off some loved one. We hold that God is not responsible for the bad judgment of men in the erection of their homes, nor does he require the blunderings of either architects, plumbers, sewer layers, or any other to work out his purposes. If he uses these means in any way it is to punish those who fail to observe the natural laws of creation and life, and bring upon themselves bereavements and sorrows.

A New Device in Blinds.

IN answer to several inquiries concerning Hill's Patent Inside Sliding Blinds, now being introduced on this coast, and whose advertisement appears on page 80, we give the following short description.

These blinds are made by machinery specially constructed for this work, from the best material; they are finished by hand, and are very neat, economical, and convenient. Although constructed of light material, it possesses more durable qualities than a hinged shutter. It can be closed with the window raised, and will not blow open or rattle.

As inside blinds are an important feature in most every building, too much care cannot be exercised in selecting that system and style of blinds whose general qualities are simplicity and convenience. Considerable objection has been raised against the inside folding blinds now in ordinary use, many people preferring to be without any rather than be bothered with their curtains continually catching when folding in and out. Many also object to the pocket at each side of the frame, as it forms a receptacle for dirt and dust.

The Hill Blinds are formed in compartments or sections, and are made to run in grooves, each section sliding past the other with secreted springs to hold them in position at any point. They are very easily managed, and are entirely out of the way of

any article upon the window-sill; they do not in any way interfere with the curtains or draperies, and by pressing the blinds to the right, they can be instantly removed, and taken from the room and cleaned.

Wherever introduced, these blinds have given entire satisfaction. They are very popular in the Eastern States. And, as they are handsome in appearance, neat and durable, and cost considerable less than the folding blind, we think it would be advantageous to those interested, to call on Edward B. Hindes, 330 Pine Street, room 55, who is agent for the association on this coast, and see full size models.

Luck—"Good" and "Bad."

THERE are but few words in the English language more bandied and misapplied than the term, Luck; which is used to express some unknown, invisible, undefined something, having no tangible existence or application other than a speculative, convenient sentiment, utilized to fill endless numbers of gaps in the experiences and vicissitudes of life,—a substitute for the less acceptable idea of destiny; for if a man possesses in his moral, mental, or physical nature, or is specially surrounded with an influence or controlling principle or element which entitles him to the common appellation of a lucky or unlucky individual, then his fortunes or misfortunes must be the result of an agency not under his control, and not the result of clear discernment, good judgment, and prudent and discrete action; but is the enforcement of success or non-success by a power or principle which is wholly above and beyond the control of the recipients.

Those who pass through life enjoying its common comforts and successes without any specially noticeable occurrences, are considered simply good, careful business men, in nowise indebted to freaks of either good or bad luck. But those who by acts of shrewdness, cunning, or unscrupulous boldness make big strikes, and gather in great fortunes—perhaps millions—are regarded as "lucky;" "every move they make *wins;*" while others of equal integrity and caliber would fail of like success under similar opportunities, because restrained by broader and more liberal views of justice and right beyond themselves.

The extravagant and reckless, as well as the weak-spirited, and those frequently out of work, alike draw their qualifications and consolations from the same source—"luck."

Those who have swamped fortunes in wild speculations, attribute their adverses to "ill luck." The criminal with the blood of his fellow creature upon his hands, and those guilty of lesser crimes, unite to patch up treaties with conscience by persuading themselves they have been the victims of circumstances—*unlucky*.

For all the faults and failures of men, their positive sins and culpable short-comings, "luck" is the antidote.

The Greeks and Romans fully accepted the theory of "luck," calling it destiny. Alexander the Great depended upon this pretext for human failures. Pliny says, "Some people refer their successes to virtue and ability, but it is all *fate*." Napoleon believed in his "star." Cromwell and Lord Nelson had similar ideas.

There are such things accredited as happy and unhappy accidents and happenings. We read of a painter who produced a long-sought effect by throwing his brush at the canvas in a fit of rage. Franklin ascribed his turn of thought and conduct through life, to the finding of a copy of Cotton Mather's essays.

It must, however, be admitted that very many most singular things occur. One man may seek to extract the juice from an orange, and perhaps meet his death by choking from the lodgment of a single seed in his throat, while another may have an iron bar run through his body and survive; another may but pierce his flesh with a thorn and die, despite the efforts of the best medical treatment, while another may swallow a jack-knife, pass it, and live on the full period of life unharmed by the event.

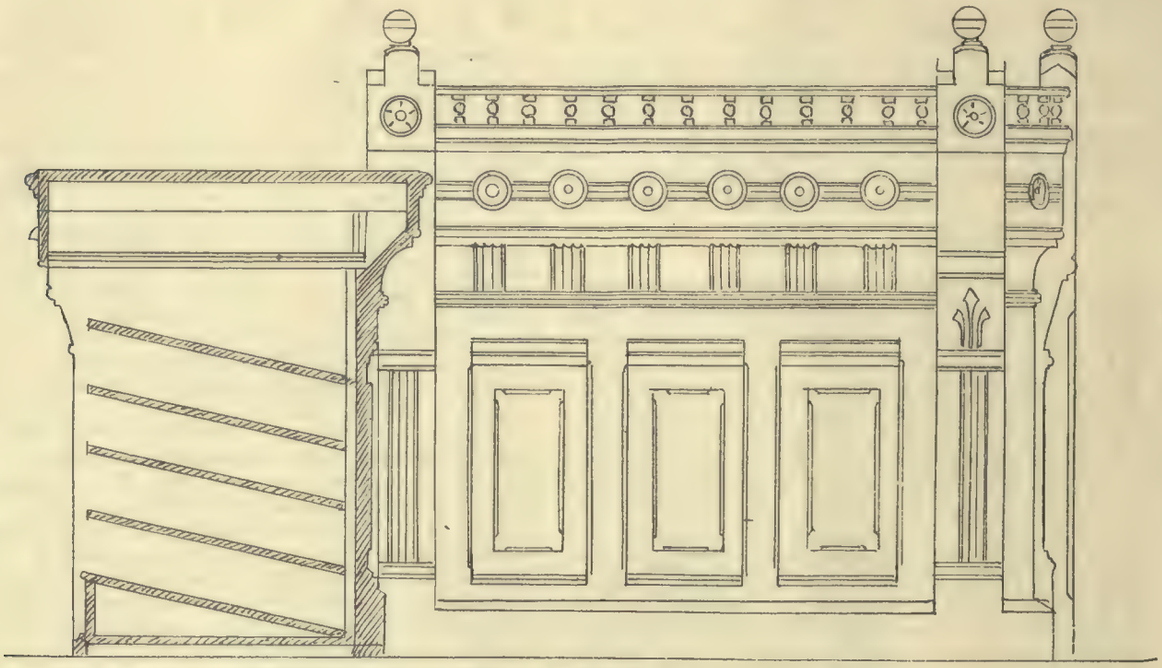
The thing called "luck" is but a bugbear—a delusion for the unphilosophical, spiritless, and indifferent to rest upon. The successful of human kind are those who do the right thing in the right way and at the right time. Those called "lucky fellows" are no more nor less than men who have been quick to utilize opportunities, and persistently follow up advantage, hunting for additional agencies and sources of wealth, and handling and protecting their gains in the one direction of profit and increase.

Luck as a doctrine or theory is demoralizing, delusive, and mischievous, and a cloak and covering for human faults and weaknesses. The things attributed to luck and chance as commonly understood, are but combinations of events, coming and going like all things in life, which, if seized upon at the right time, and successfully manipulated, yield their reward; while if neglected and allowed to pass by unimproved, they are but as the fleeting winds, those securing advantages being called "lucky," and those who do not, because they failed to succeed, through indolence or inactivity, are awarded the royal plume of "unlucky dogs."

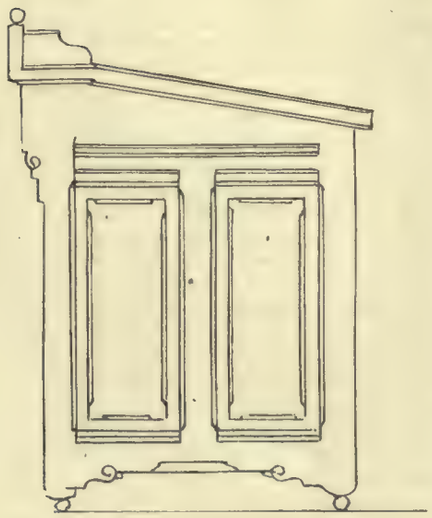
THE New York Court of Appeals has recently decided a case involving a building contract, confirming the decision of an inferior court. The New York *Daily Register* gives a rather meager report of the case, but there are several interesting points in the decision. The circumstances seem to have been that a certain builder contracted in the usual form to erect a house under the direction of a firm of architects, and with the ordinary stipulation that no payment should be made until a certificate of the architects that the payment was due had been presented to the owner. There was another provision in the contract to the effect that disputes concerning the construction or meaning of the plans should be decided by the architects, but that any other difference between the parties should be submitted to the arbitration of two competent and disinterested persons, to be selected in a specified manner; and a forfeiture for delay in completion was also agreed upon. The house was not completed for four months after the contract time, but the owner then moved in. The builder applied to the architects for a final certificate, but was told that the owner had instructed them to give no more certificates. He then went to the owner, who pointed out some little matters still remaining unfinished, and told him that when those were done he would pay at once the balance due, after deducting the amount of the forfeiture for delay. It would seem that this promise was not fulfilled, for the builder subsequently brought suit for his money. The defense claimed that the certificate of the architect was agreed to be a necessary prerequisite to obtaining payment, so that the owner was not bound to pay anything until this had been produced; and as the builder failed to bring the certificate, he had no right of action against the owner for refusing to pay.

Many decisions show that under ordinary circumstances this is an unanswerable argument but in the present case it was not disputed that the owner had instructed the architects to give no more certificates, and the court held that the owner, who had introduced the stipulation in regard to certificates into the contract for his own benefit, might waive it, and that, "if he accepted the house as under a completed contract, the plaintiff would be entitled to recover, although no certificate had been given, and even if the architect was not satisfied." Another point was made by the defense, that, as the contract provided that all differences not relating to the construction of the plans should be decided by arbitration, this stipulation should have been complied with before bringing suit. In regard to this the court held that it was no more the duty of one party than of the other to resort to arbitration, and as the defendant, so far as was shown, took no steps toward the selection of arbitrators, it was unnecessary to consider this defense. The questions which the jury was called upon to consider were two in number, the first being whether the owner accepted the house as a completed building under the contract; and whether, if it was so accepted, the delay in its completion was caused by the owner's fault. What was the jury's decision we do not know, but the Court of Appeals held that these questions were properly submitted to it, and confirmed the verdict. The case is called Smith *versus* Alker, and seems to have been decided some time in March last. It is worth observing that the ground on which the jury decided that the owner had virtually accepted his house as complete seems to have been rather his promise to pay the contract price when certain small alterations had been made, than his occupancy of the building. It has been decided more than once, we think, that the owner's moving into a new house does not constitute an acceptance of it, but in the present case the fact of his moving in, coupled with the assurance to the builder that he would pay the balance of the price, less deductions for delay, as soon as some small matters had been attended to, seems to have been regarded as a virtual acceptance from which he could not retreat without good reason.—*American Architect and Building News.*

CARPETS AND DECORATION.—It is a great point in house decoration to secure carpets that accord with wall and ceiling tints and patterns, where these have been already put on. Irregular patches of color in carpet do not show well where wall and ceiling have methodical and carefully considered designs. The carpet, too, should be responsive to warm, or brilliant, or delicate tones in these. Many a decorator suffers in reputation from the incongruity of a carpet introduced after he has done his work. As a general rule we are inclined to think that any recurrence of geometrical patterns, inclosing compartments of large size, is fatal to the success of a carpet design. The best patterns are neither up and down, nor "all over," but are evenly distributed over the whole area, or arranged with reference to a center toward which the accessories work. Some excellent combinations are those in which, on a field or ground of some secondary shade, the pattern consists of some small repeats, touched slightly with primary colors in various tints, relieved or edged with gray.



SECTION OF MAIN COUNTER AND ELEVATION OF SIDE DESK.



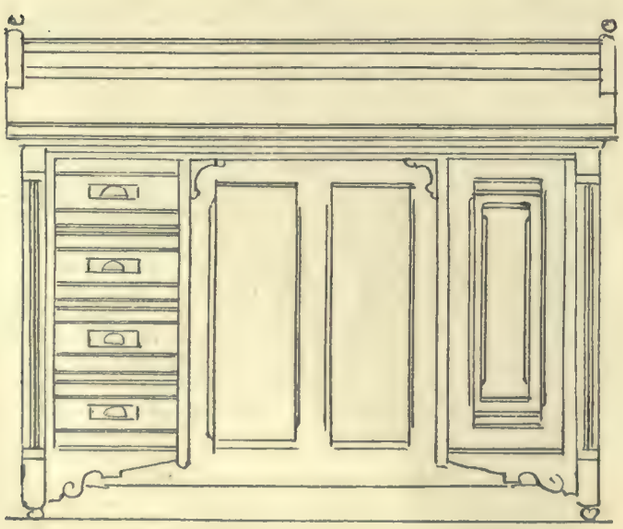
SIDE ELEVATION BROKER'S DESK.

New Zealand Insurance Company.

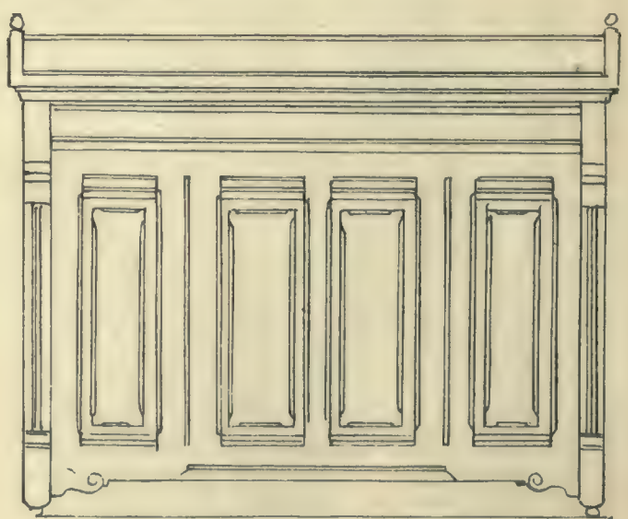
IN November, 1883, we illustrated the proposed new building of the New Zealand Insurance Company, to be erected in this city on their property, 310, 312, 314 California Street. The Pacific Coast manager, Mr. Hugh Craig, has lately returned from a trip to the head office, Auckland, New Zealand. The company, for the present, have decided to let the old buildings remain and fit up for their own convenience No. 312. To carry out this idea Messrs. Wright & Sanders were employed to prepare designs for the interior fittings. How well their instructions were carried out may be seen by a visit to the company's new quarters between the hours of 9 A. M. and 5 P. M.

The contract for the carpenter and mill work was given to Mr. W. A. Knowles, of Oakland. The interior decorating is the work of Cook Bros., 108 and 110 Post Street.

A general idea of the arrangements may be gathered from the accompanying desk elevations and interior perspective on following pages. All the woodwork is in solid Eastern oak. The wainscot is surmounted by a band of Lincusta Walton 15 inches in width. The frieze and cornice are frescoed in cool, light greys, producing a very pleasing effect, and displaying excellent taste in this style of decorating. A vault of solid brick and cement 18 feet 6 inches by 9 feet 9 feet has been built across the rear of the room. The area of the office is 18 feet 6 inches by 68 feet 6 inches, and is only sufficient for the City Fire and Marine Departments.



REAR ELEVATION BROKER'S DESK.



FRONT ELEVATION BROKER'S DESK.

We note from the last quarter's report of the Underwriters' Fire Patrol of San Francisco, that there are ninety-six fire companies operating in this city, and that the receipts of the New Zealand Insurance Company are neither least or last. The New Zealand has, since its advent upon this coast in 1875, taken a prominent position in the matter of receipts, as well as figuring in every large fire, and many of the smaller ones, from which our city has suffered during the last eleven years.

The property upon which the offices are located was purchased from Sir Robert Burnett, Aberdeen, Scotland, the Newhall heirs, and M. Rosenbaum of this city. The frontage of the three properties is 60 feet on California Street, with a depth of 124 feet, with a rear frontage on Halleck Street of 60 feet 6 inches.

When foreign capital, represented by companies of this standing, comes among us and identifies itself with our citizens, we cannot do better than give it our earnest support. Had the above investment been made by a company hailing from London, we would not have been at all surprised, because we can give them a much greater return than can be obtained in the United Kingdom. But it has remained for the most progressive and youngest of Britain's daughters to come to us and put New Zealand money, which brings a higher rate of interest at home, into property in San Francisco.

We wish them continual prosperity, and hope the receipts of this bold and conservative company will so far exceed the losses and expenses as to justify them in soon erecting the large building and spacious offices for which Messrs. Wright & Sanders have already prepared plans.

The following brief history, showing the progress of this company, was handed to us by Mr. Hugh Craig, Manager for the Pacific Coast:—

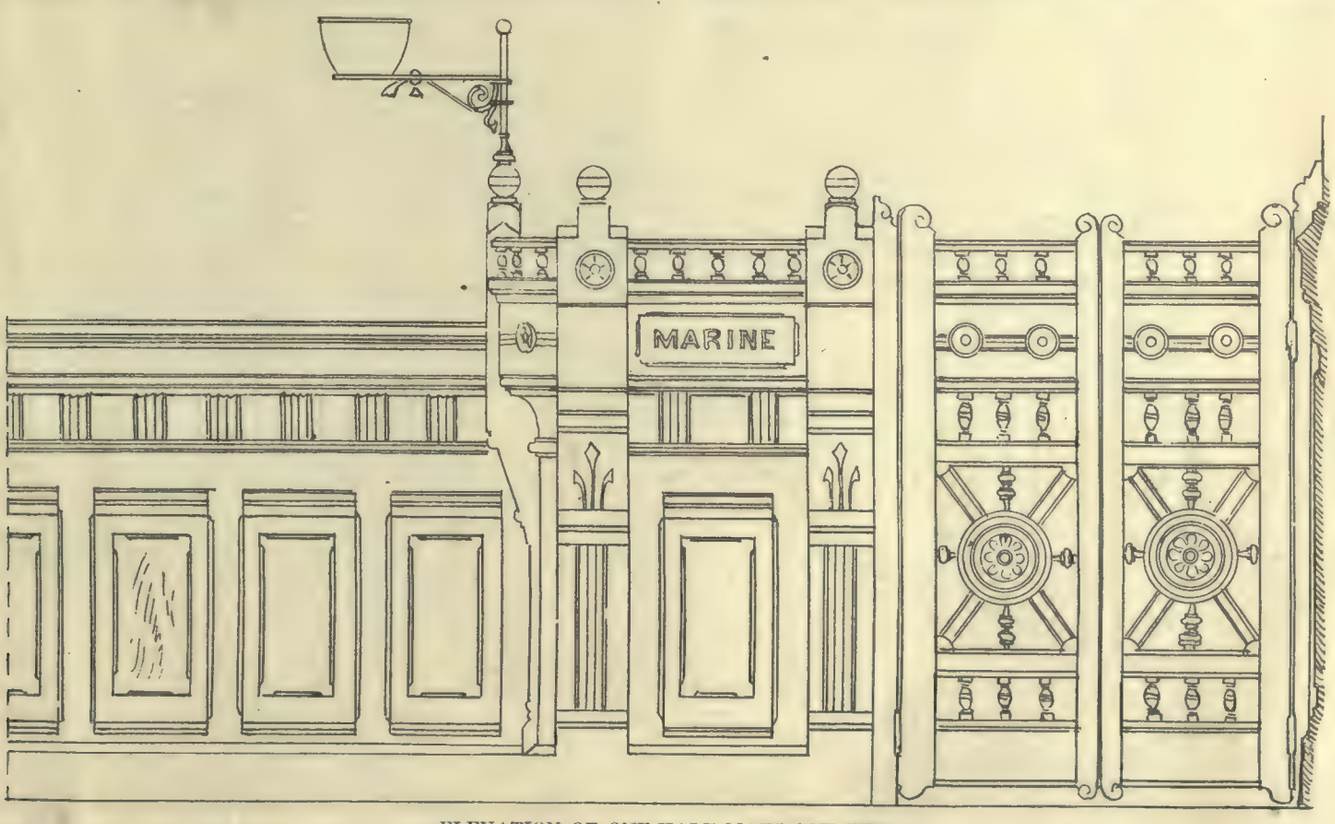
"The company was established in Auckland, New Zealand, May, 1859, with a paid-up capital of $24,225. In 1862 its paid-up capital had increased to $75,000; in July, 1863, to $150,000; in July, 1864, to $225,000; in January, 1865, to $250,000; in 1871, to $375,000; in 1873, to $500,000; and to-day the paid-up capital stands at $1,000,000; assets, over $2,750,000, with unlimited liability of shareholders."

TO IMITATE BLACK ROSEWOOD.—The work must be grounded black, after which take some red lead well ground and mixed in the usual way, which lay on with a flat, stiff brush in imitation of the streaks in the wood; then take a small quantity of lake, ground fine, and mix it with brown spirit varnish, but not with more color than will just tinge the varnish, and if still too red, add a small quantity of Vandyke brown. If the work is well done, the surface, when varnished and polished, will scarcely be known from rosewood.—*Painters' Magazine and Coach Painter.*

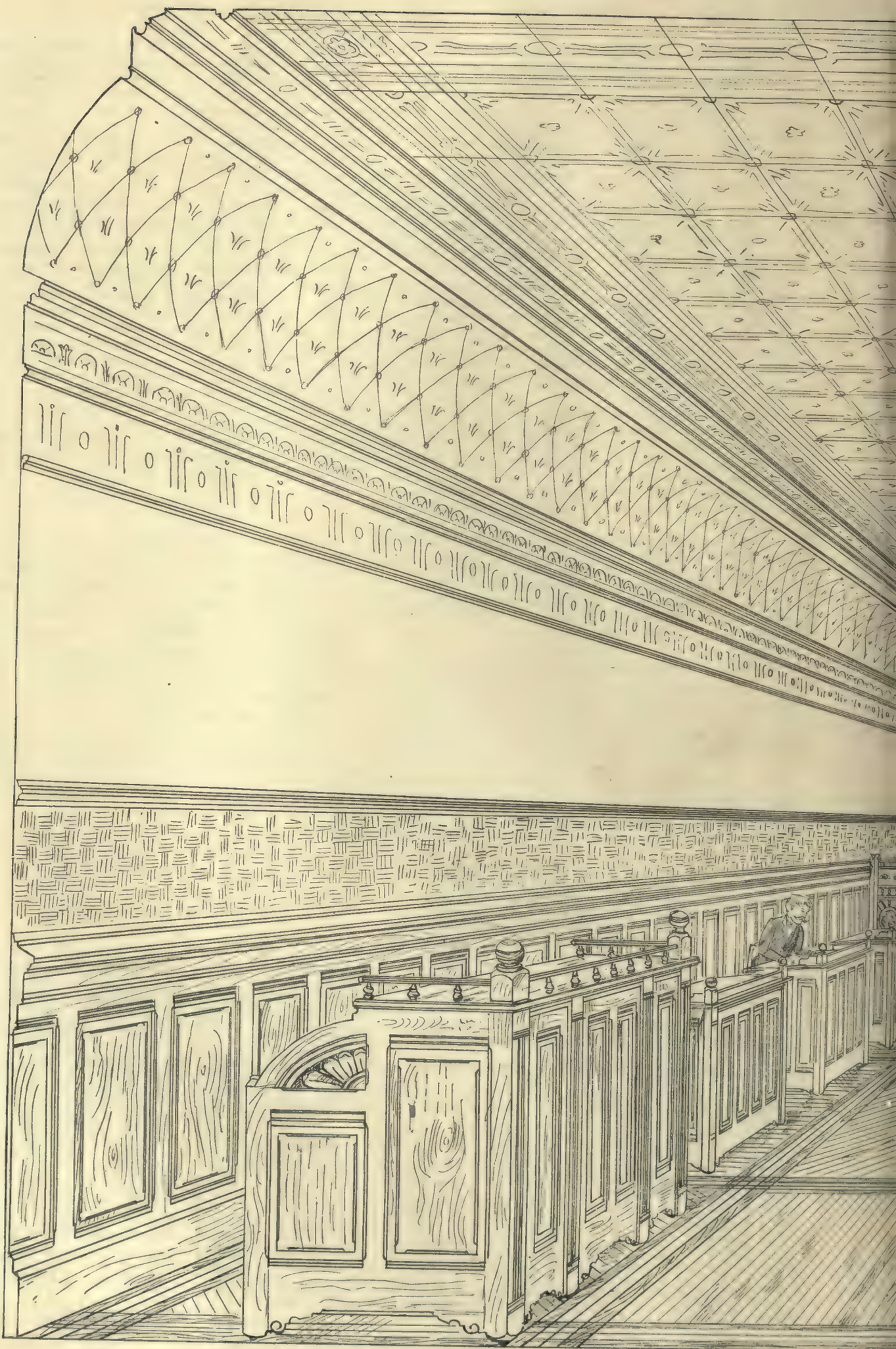
SHINGLE ROOFS SHOULD BE WELL PAINTED.—There is no portion of a building of greater importance, and none subject to greater "wear and tear," than the roof. And as a general rule, no part which receives so little attention after it is on. Owners seldom trouble themselves about the roof so long as it keeps out the rains, and no effort is made to preserve it, until it begins to leak; by which time the decay assumes such magnitude, that patching and repairs simply prolong for a year or two, the time when the putting on of a new roof will become inevitable. All exposed portions of buildings require constant attention and care, and this is supremely true in reference to roofs, whether laid of shingles or metal. Shingle roofs may be preserved for a lifetime, by being properly painted when new, followed by additional coats at proper intervals. The preservative advantages of painting shingle roofs have not attracted general attention from either owners or architects, although there is no place in the known world where the necessity is greater than in California, particularly in San Francisco, where as an almost universal rule none but thin redwood shingles are used. The severe and sudden changes to which roofs are subjected, of hot suns, heavy fogs and dews, drying "north winds," occasional spells of "scorching heat," heavy rains, etc., etc., are very severe upon so light a roof covering as the fragile redwood shingles. It is, therefore, wise to protect them by painting, which increases durability, adds largely to appearances, and if a really *good fire proof paint* is to be found, and is used, gives security from fire to a considerable extent; as burning embers falling on a roof so painted, will not ignite the shingles.

EDITOR CALIFORNIA ARCHITECT—*Dear Sir:* How few there are who give credit to the architect, or appreciate his many perplexing studies. He is expected to furnish, off-handedly, all information demanded of him, by whomsoever asked, whether the inquirer be a tailor, a shoemaker, a hatter, a blacksmith, or even a full-blown flower of femininity—an old maid. Even the judicial mind makes demands upon the mental resources of the architect, and but little credit is given for the numerous and varied experiences and studies necessary to all this. The professional architect is looked upon as one whose mind is equal to a common library.

If *duly qualified* as such, he stands at the head of all the professions. He must be a good geometrician; must be skilled in the art of writing up contracts and bonds; must be fully conversant with the strength of all building materials—wood, iron, stone, bricks, cement, etc.; also the market value of lumber of all grades —hardware, wrought and cast iron, glass, paints, slate, plumbing



ELEVATION OF ONE-HALF MAIN COUNTER.



INTERIOR OF NEW SAN FRANCISCO OFFICE, NEW ZEA

'D INSURANCE COMPANY, 312 CALIFORNIA STREET.

materials, etc. Also enjoy a knowledge of the difficult science of acoustics—a study requiring a large portion of a life-time to gain proficiently. In addition to all these, the mechanical science of construction, ventilation, proportions, symmetry, foundations, stairs, and innumerable other things must be well, if not absolutely perfectly understood.

But in the matter of remuneration, it is too often the case that the professional man's services are demanded upon the basis of but little better than day's labor compensation, although his services are expected to be almost inestimable. If the standard of remuneration for architectural professional services could be measured by the rules applied in other professions, where far less hard mental work and general knowledge are required, the profession would represent a large amount of wealth. The doctor, for a dime's worth of powder, or a shilling's worth of fluid, accompanied by a grasp of the wrist and a glance at the tongue, is at liberty to demand five or perchance ten or more dollars as a fee for services *received* if not rendered in good faith, which multiplied by numerous patients each day, must—as it does in numerous cases—rapidly augment the cash or bank account of the medical man, and enable him to erect buildings, and luxuriate in all the pleasures of a fine span of horses, with appurtenances, etc.

The legal brother professional likewise for an hour's consultation may demand a fee of twenty-five to a thousand or more dollars, and the charge is more frequently paid than refused. But the architect is drawn down under taught, financial lines, without any of the soft snaps enjoyed in the other professions. The architect must content himself with wending his way to buildings under charge as best he pleases, through mud, slush, and dust, and move around through mortar beds, under plasterers' scaffolds, to be besmeared with the compound of lime, sand, and hair; climb up ladders and upon scaffolds of not over safe construction, over roofs and dangerous places, sometimes spoiling a whole suit of clothes, lime burning a pair of boots, and knocking fifty per cent out of the value of a silk hat, if such a luxury is indulged in,—all in daily devotion to the duties imposed upon him as an architect.

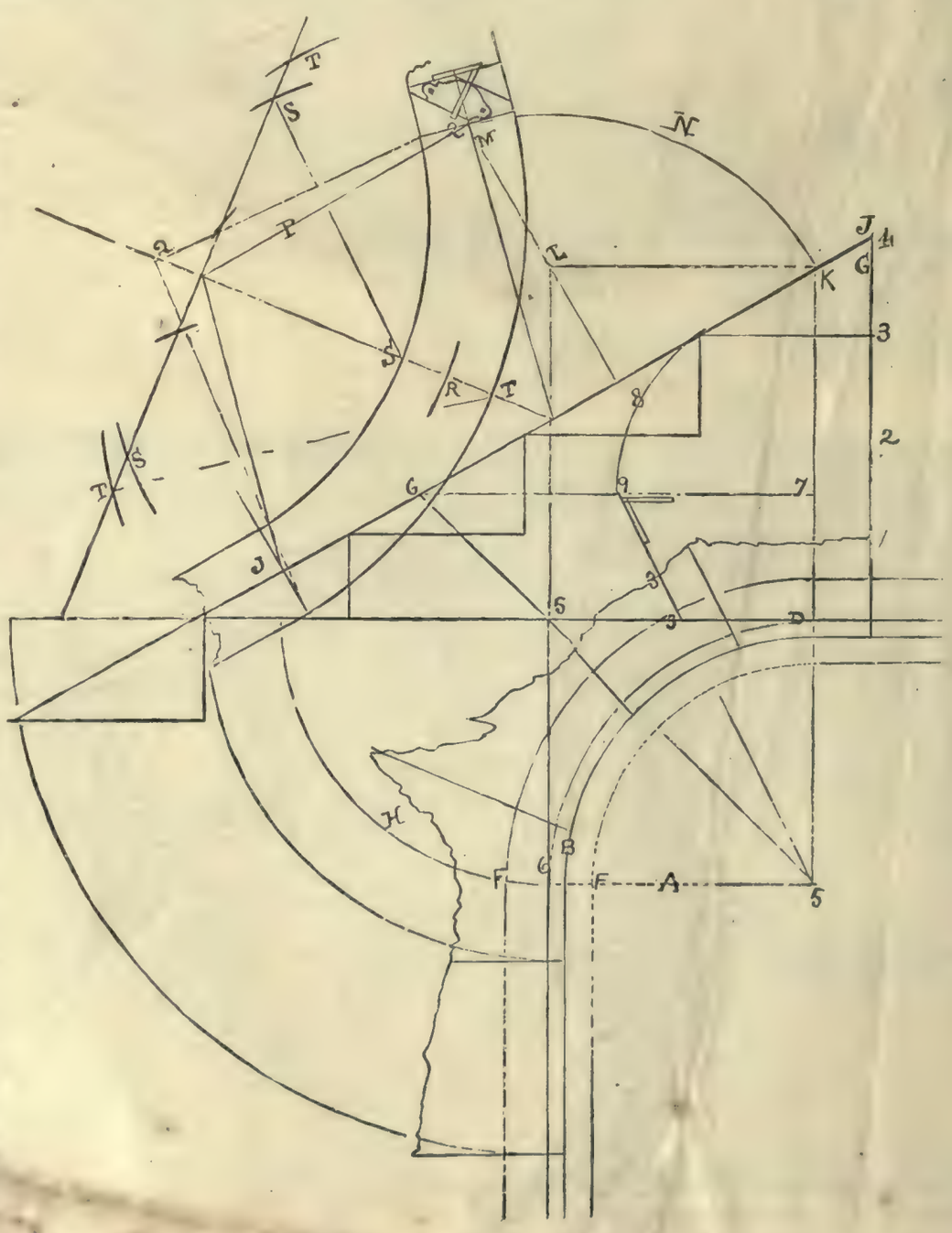
But these are not all; at the office, numerous interviews draw upon time, and days in each month are wasted in profitless intrusions upon valuable time. Endless questions have to be answered, work on the boards criticised and corrected, calculations and estimates prepared, documents to write up, and the days filled up with cares and watchfulness for the best interests of clients, and sketching and planning carried late into the hours of night.

Pardon if I have assumed too much in this writing; but I have been so much in contact with architects' offices in so many States and large cities in the Union, that I feel an interest in the high and honorable profession, and regard its worthy, intelligent, and proficient practitioners as men entitled to the highest considerations. And pity it is that the profession is marred by a single individual whose exalted standing in point of honor, competency, and invulnerable integrity and trustworthiness are not such as to defy criticism.

THE following cut furnishes a *graphic illustration* of finding the cuts over a quarter turn stairs. Let B be the face of cylinder; make C, D the center of rail; make half breadth of rail right and left of C, as F F; square through center of rail from C and D to 5′, as tangents of rail falls there; space off the risers in the cylinder as shown; set up the height of risers, as 1, 2, 3, 4; now continue line D, 5 to J; take compass and stand in 5, and draw curve from F to line 5 J; do the same with curve I; next draw the line of pitch from J to J, 4; continue line from D to K; likewise line 5 to L; square from K, D, over to L, from pitch line J, J; square through L; take compass, and stand in 1; open out to K; draw curve N, cutting line M, M at 2; connect 1 and 2; which will give the tangent in mould; make line J, O parallel with line 1, 2; make line P, 2 parallel with J, 1; we will then have the parallelogram wherein the mould is found.

Now to find the bevel, draw through 5, 5′ to 6; square from 6 over to 7; stand at 7; draw curve 8 to 9; connect 9, 5; that gives the bevel; breadth of rail is found at 3, 3; take breadth of rail; lay off each side of 2 and J; now find the pin points, and draw the curve of mould; after mould being drawn, you can cut and stand up as a model.

Explanation: Cut around curve S; cut from J to 5′, from 6 to J 4; from 4 to line D; hinge from 5′ to 1, from 5′ to D, from J to 6; cut across the joints and stand up. M. J. M.



S. F. Chapter of Architects.

THE regular routine of business being disposed of, and the member designated to address the Chapter on "Ancient and Modern Plumbing" not being present, and having by letter informed the Secretary that it would be impossible for him to prepare a paper for the occasion which would be to him satisfactory, or instructive to the Chapter, other subjects were taken up and discussed until a late hour, with earnestness and profit.

Mr. Williams presented a drawing delineating a device for safety at elevator wells in cases of fire, which was favorably received and commented upon. The necessity for greater security in this connection was admitted, and it is only a matter of time when—as the outcome of destructive conflagrations—a practically perfect method will be found, serving that purpose, without the necessity of inclosing elevators in brick or iron shafts.

The recent destruction of Bancroft & Co.'s building, and facts known in connection with its construction, were freely talked over, with no flattering comments as to its sufficiencies as a five-story structure. It is generally understood that the best quality of hard-burned brick, laid in mortar composed of a good and sufficient quantity of Portland cement, were not imposed requirements at the time the building was erected; consequently the walls were not the most difficult ever built to topple and fall. The ruins, of course, expose the system of bond irons employed, which, if sufficient to meet the requirements of the fire law at the time the building was built, would not be so considered at the present time by any qualified architect.

The construction of the walls was such as is generally employed in California, as far as the *bond* is concerned; *i. e.*, headers each fifth course. The value of this method of bonding was contrasted with that of the English and Flemish bond, with no concession in favor of the former, except custom and cheapness.

This was followed by a general and earnest discussion of the matter of plan competition in connection with the Stockton Court House, Hall of Records, and jail.

The course determined upon by the Board of Supervisors having the matter in hand was reviewed in plain terms and condemned as unjust, iniquitable, and promotive of, if not designed to cover up purposes and intents which dare not face the clear light of square and upright dealings. It is well understood, and well and conclusively known by all intelligent architects having any experience in such matters, what is meant and intended by $800 for the first, $400 for the second, and $300 for the third best plan—all of which, however, to remain the property of the Board. The *joker* in such cases is an old familiar card, and cannot be played with impunity upon those understanding the game.

It may be that the San Joaquin County Board may be better than other Boards have been, and may be innocent in the error they have made. But if so, then they had better seek shelter by resigning, as the responsibility of what they propose to do must rest on them, whether they are acting and do act understandingly and intelligently for themselves, or are the servitors of others.

There have been too many of the unfair and unjust, and too few honorably and equitably conducted competitions for informed and competent architects not to feel aggrieved at the repetition of what, upon its face, is transparent in the case under review; and while the members of the Chapter recognize their entire inability to reform the abuses practiced in such cases, or to convince those who have happened or managed to be placed in position, to repeat another competitive wrong in the Golden State, they have the right, as architects, citizens, and men, to express in unmistakable terms their hearty disapproval of the method and manner of competition resorted to by the Stockton managers.

Mr. Sanders presented a drawing, delineating a most ingenious device applicable in testing the strength of timbers in various ways, utilizing a one pound weight in a given position to produce a pressure at another point of 2,000 pounds. The whole affair is simple and possible of being made useful in many ways. Mr. S. proposes to complete a working model of the device.

A committee was appointed to consider the Stockton competition matter, and report resolutions in reference thereto to a special meeting of the Chapter, to be held on the 14th inst.

"FAMILY colors" is a term familiar to English coach painters. In this benighted land of ours, under the new order of things, there is no distinction in "regard to color or previous form of servitude."

PURE linseed oil may be free from adulteration, yet unfit for use, because not properly refined, or freed from mucilaginous matter.

Transparent Colors.

IT is well understood that transparency in the proper sense is opposed to opaqueness. A transparent body—strictly speaking—suffers rays of light to pass through it, so that objects can be seen distinctly.

Air, water, and glass are examples of transparent bodies. The word, however, is sufficiently accurate for all practical purposes, and, although in the use of a transparent color we cannot see the ground color over which it is laid, still the groundwork exerts a modifying influence on the so-called transparent color, and the educated eye of the painter sees the ground color, or at least is conscious of its modifying effect on the superimposed color. There is a mutual support between the two, a giving and taking, the end sought being what painters term depth and richness, which cannot be gained by an opaque or heavy-bodied color.

An opaque color presents to the eye a compact film, while the beauty of a glazing color is due to its property of lying loosely, so to speak, and as varnish is employed the color is asserted by the transparent medium.

The painter may obtain transparent colors in crimson, scarlet, purple, blue, yellow, green, and brown, and semi-transparent ones of less purity of tone; and as the may be used clear, over various grounds, mixed with one another, or modified by small proportions of opaque colors, every desired effect presented in nature may be correctly imitated, and the extreme richness be produced on surface work.

Carmine and the lakes, from cochineal and the madder root, supply all that is desirable in red.

Dutch pink, Italian pink, and patent yellow furnish the yellow tones, and ultramarine stands unrivaled as a blue.

Verdigris, emerald green, and green lake add to the list transparent greens of great beauty; and asphaltum has no equal among the browns. Raw sienna supplies a dull yellow, and burnt sienna a very valuable brown orange. The list might be somewhat enlarged, but those given comprise those which are most useful.

An opaque color may be rendered semi-transparent by using a large proportion of the vehicle to that of color, but such mixtures are comparatively of but trifling value.

Transparent colors are usually applied so as to retain the tone of the pigment, as it appears when moistened with oil or varnish. Thus scarlet, crimson, and purple-toned lake are painted over grounds of light and deep vermilion, Indian and Tuscan red, and as greater depth of color is desired, the change is made in the ground color. A very brilliant red is produced, by giving a thin wash of carmine over vermilion, and the same shade of carmine may be deepened through browns of varying depths, the limit being black. We may glaze lake over blue, or blue over lake, and produce purple and violet hues, but this is not generally practiced outside of striping and ornamenting. The red-toned lakes place at the disposal of the painter a wealth of warm glazing colors; in fact, nothing better could be imagined.

Next in order is yellow, which is termed an advancing color, and when free from the orange cast, and is glazed over white, or delicately tinted grounds, produces brilliance, without gaudiness.

Patent yellow gives clear, bright tones. Dutch pink and yellow lake, when "wet up," are of a dull yellow, and may be glazed over drab ground-colors, with good effect, but they are at present employed to add richness to what are termed sea, bottle, and olive greens. In this arrangement, the true color of the yellow is hidden, and its yellow tone interposes between the foundation color and the eye, a yellow medium thus producing transparency and richness that cannot be gained by any other means.

The soft, mild green, produced by English varnish over black, is well known to coach painters, and they know also, that the precise tone cannot be imitated.

A pure, dark, rich blue is supplied by ultramarine blue. It may be classed as more retiring than many shades of green that are popular, and yet blue is but little used for panels.

It is usually glazed over, dark lead color, and mixtures of Prussian or Antwerp blue and white.

But that is by no means the limit, as it may be successfully glazed over white, straw color, yellow, orange, etc., etc.

Verdigris is a perfectly transparent, bluish green, of exceeding beauty, and in former times was in constant use by coach painters, for the panels of heavy work.

Ornamental painters are now lavish of it on gold and silver leaf, and it has almost lost its place as a panel color.

Among the browns, asphaltum is the most transparent, and when painted over a dark groundwork, imparts richness, all its own.

Transparent colors are sometimes modified or changed by the addition of those that are opaque. Thus, burnt umber and yel-

low lake, or Dutch pink, produce a soft, warm brown; Prussian blue gives a rich green, and so on. The reverse of this process is to add a small proportion of the transparent to the opaque color, as lake added to Indian or Tuscan red, and to the strong-bodied, mixed browns. Of course this is in the line of economy, the purpose being to retain the body or covering power of the opaque color, and a tinge of richness from the transparent one. There is scarcely a limit to the variety that may be produced, and hence the skilled painter has no difficulty in bringing out new effects in colors.—*Painters' Magazine and Coach Painter.*

Mistakes in Building.

OWNERS are often sadly disappointed and grieved at their mistakes in the means adopted by them to avoid the expense of an architect, and obtain plans for their buildings. Sometimes they know, or become acquainted with some *honest mechanic*, to whom they are induced to intrust the whole matter of plans, specifications, and construction, only to repent when it is too late. The party to whom the proposition is made, elated with the splendid opportunity opened up to him, and full of conceit in his own abilities, uses all possible means to secure and consummate the arrangement, and plans are made—*and such plans!*—and the work progresses. Once under way, there is no stopping it, and step by step the owner discovers and realizes, one after another, grievous errors, which are difficult to remedy. And when the building is completed, he simply feels disgusted. Imperfect arrangement, poor construction, homely design, and incurable defects crowd upon him, as the reward of his folly; and regrets for his error haunt him day and night, but it is too late—the building is erected, and he must endure its defects.

But the first general dissatisfaction is primary and bearable, compared with after experiences in their various details. The plumbing work has, perhaps, been done by some tenth-rate man—some spoiler of good materials, who calls himself a "practical plumber," but who has not the slightest idea of what constitutes a really good job, not to say first class. Nor would the payment of ten times the value of the work done secure skillful workmanship at the hands of such men, for the simple reason that they do not possess, and therefore cannot practice, mechanical skill and abilities. And owners who employ this class of plumbers are unfortunate, indeed. But to continue, defects show themselves in all connections. Pipes, under the old free and easy rule, were put in of insufficient capacity, wastes entirely too small, and sometimes so cramped in making bends as to diminish their practical size one-half. "Tinker" instead of "wiped" joints; leaks at various points and places; wetting and spoiling ceilings and walls, and not infrequently carpets have to be torn up to escape the deluge. All this was followed by a still more serious defect—one affecting the health and lives of the occupants, *viz.*, imperfect or insufficient traps, pipe ventilation, bad sewerage, etc., resulting in the distribution of the vicious and poisonous sewer gases through the building, and as a consequence, the ill health and sometimes *premature death* of loved ones. The intended pleasant home is thus transformed into a mere fume-castle, a disease-breeding charnel house, not fit for human habitation.

All this is followed by continual repairing, tearing up floors, removing finishes to get at concealed places, etc.; and for all this the owner has been made to pay a good round price, amounting to more, as a rule, than it would have cost him to have secured a good building erected under the superintendence of a trustworthy architect. But bad plumbing work is not the only serious defect which so often occurs in such cases. The foundation is often wholly insufficient, and settling occurs, with any quantity of ugly cracks in the plastering. The structure is perhaps so poorly braced that the edifice trembles with every wind that blows. And when the rains fall, leaks are found at every exposed window and opening, and the roof itself yields its proportion of internal wettings. But we will not continue our enumeration of "bad things," as to do so would consume columns of space. Such cases are known to all architects, and many a "served him right" is indulged in, upon the principle that a competent physician laughs at the sufferings of a patient whose pains and agonies result from self-treatment or quack practice, and the educated lawyer smiles when his client gets himself into a *terrible fix* by intrusting his case to some pettifogger, or who tries to work out the intricacies and problems of law by his own self-conceived legal ingenuity.

Uncovering the Base of the Sphinx.—Since the 7th of January last, several hundred Egyptian fellaheen have been at work under the direction of Brugsch Bey (formerly commissioner to the Centennial Exhibition) removing the sand which has hitherto enshrouded the great Sphinx up to its very neck. By the end of this month the whole of it, amounting to over 20,000 cubic meters, will have been removed, and the grand old monument, raised by the Pharaohs over 4,000 years ago, will be again visible in all its beauty. A high wall is being built around it, to prevent the desert-sands from again submerging it.—*New York Mail and Express.*

The Architect of the Celestial Kingdom.—The Mormons have just had another revelation from Heaven, which indicates that their prophet, the late Mr. Joseph Smith, is much more innocently employed there than he was on earth. They are building a big tabernacle at Provo, the second city in importance in Utah Territory, and the architect, a Mr. Folsom, was much perplexed about the entrances and exits, when (so he says) the Prophet Joseph appeared to him in a vision and straightened out the crookedness, remarking that architecture is his particular employment in the celestial kingdom. The Salt Lake *Herald*, a journal run by Mr. Caine, the Mormon delegate in Congress, observes:—

"As the arrangement is altogether novel, and a great improvement over similar edifices throughout the Territory, there is no reason for discrediting Mr. Folsom's somewhat startling assertion."

We recommend this seemingly well-attested vision to the consideration of the American Institute of Architects. We have heard that when the elevators were put into the Equitable Life Assurance Society's Building on Broadway, the contractor successfully consulted his deceased father or uncle, through a medium in Ohio, for the plan of them. If the Institute can make a permanent arrangement with the late Mr. Smith for professional services in difficult cases, it will be a great thing for American architecture. It is a pity that some way to communicate with him was not contrived during the building of our local monstrosity, the New York post-office. But it may not be too late even now to call him in for consultation about the Albany capitol.—*New York Herald.*

Liens upon Public Buildings.—A decision of the supreme court involving the question of the validity of mechanics' liens upon public buildings, holds that liens of this character are contrary to public policy, and therefore void.

Parties contracting for the erection of this class of structures should therefore bear in mind the fact that the Lien Law affords them no protection in case of failure on the part of boards, and commission controlling constructive—public—works to pay the contract sum. There are methods by which collections may be reached, through suits, relief bills, etc., but these are always more or less vexatious, and often very expensive to the creditor.

Market Report.

Pine, Rough	per M feet,	$15 00
" " No. 2	" "	12 00
" " " 2 in lengths	" "	13 00
" " 40 to 50 feet lengths	" "	17 00
" " 50 " 60 " "	" "	18 00
" " Selected	" "	20 00
" " Clear	" "	25 00
" " Fire Wood	" "	8 00
T. & G. Flooring, 1 x 6	" "	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	" "	30 00
" " No. 2	" "	22 00
Sepping	" "	35 00
" No. 2	" "	27 50
Furring, 1 x 2	per lineal foot,	00¾
Redwood, Rough	per M feet,	18 00
" " No. 2	" "	14 00
" Surfaced	" "	30 00
" T. & G. 6 in. 12 ft. and over	" "	28 00
" " " 7 to 11 feet	" "	25 00
" " " under 7 feet	" "	20 00
" Rustic	" "	30 00
" " No. 2	" "	26 00
" T. & G. Beaded, 12 ft. and over	" "	30 00
" " " 7 to 11 ft	" "	25 00
" " " under 7 ft	" "	20 00
" Siding, ½ inch	" "	22 50
Pickets, Fancy	per M,	25 00
" Rough Pointed	"	16 00
" " Square	"	14 00
Battens, ½x3	per lineal foot,	00¾
Shingles	per M,	2 00
Laths, 1¼	"	3 25
" 1½	"	3 75
NAILS—Rates were recently reduced to:—		
200 keg lots		2 70
100 keg lots		2 75
Smaller quantities		2 80
PAINTS AND OILS:—		
Pioneer White Lead (local factory), 5 ton lots	6¼c @	6½
Cal. Linseed Oil, raw (single bbl lots)		45½
" " " boiled " " "		47½
Turpentine, per gallon		58
BRICK—California Building Description, soft, per 1,000		5 50
" " " red, " "		6 50
" " " hard," "		7 50

Building Intelligence.

B

Broadway, south side, bet. Gough and Octavia. Two two-story frames.
O.—T. C. Delamater.
C.—G. M. Salsbury.
$5,000.

Bryant, nr. Third. Two two-story frames.
O.—J. Curry.
A.—J. J. & T. D. Newsom.
C.—J. Adams.
$11,000.

Broderick, cor. Hayes. Two-story frame.
O.—J. Klopfer.
A.—H. Geilfuss.
C.—T. Von Borstel.
$3,600.

Broderick, nr. Hayes. Two-story frame, two flats.
O. and B.—R. S. Williams.
Day work.
$3,500.

Broderick, near Grove. Two-story frame.
O.—Mrs. Russell.
A.—McDougall & Son.
C. Kerrigan & Lufkin.
$4,000.

Broderick, nr. Fulton. Two-story frame.
O.—H. R. Levy.
A.—J. Chadwick.
C.—H. G. Monrad.
$4,000.

Broderick, bet. Fulton and Grove. Two-story frame, two flats.
O.—H. Mayer.
A.—J. Chadwick.
C.—H. G. Monrad.
$4,500.

Bush, bet. Baker and Lyon. One-story frame.
O.—W. D. Nicholson.
C.—G. G. Gellespie.
$2,500.

C

Castro, cor. Fifteenth. One-story frame
O. and B.—T. Darcy.
Day work.
$2,000.

Castro, cor. Seventeenth. Two-story frame.
O.—D. Wulzen.
Day work.
$6,000.

Church, nr. Twenty-fourth. Additions.
O.—J. Duffy.
Day work.
$700.

Columbia, nr. Harrison. Additions.
O.—H. B. Russ.
A.—McDougall & Son.
C.—J. H. McKay.
$2,500.

California, bet. Buchanan and Webster. Additions.
O.—H. Erlunger.
A.—C. Kenitzer.
C.—H. Jackson.
$5,000.

D

Devisadero, nr. Oak. Two-story frame.
O.—J. Gatto.
C.—J. Sheppard.
$2,500.

Devisadero, bet. Hayes and Fell. Alterations.
O.—J. R. Dwyer.
A.—S. & J. C. Newsom.
C.—J. H. McKay.
$600.

Dupont, cor. Geary. Four-story and basement brick.
O.—A. M. Davis, of Davis Brothers.
A.—Copeland & Banks.
Carpenter work—Treadwell & Thompson, $13,685
Iron work—O'Connell & Lewis, 21,419
Sidewalk lights—Mahoney Bros., 4,081
Total, $39,185

E

Eddy, cor. Devisadero. Two-story frame.
O. and B.—F. Buckley, Jr.
A.—J. H. Humphreys.
$3,500.

Ellis, bet. Pierce and Scott. One-story frame.
O.—Mrs. Lang.
C. W. Pluns.
$2,500.

Eighteenth, nr. Shotwell. Additions.
O.—F. Kruz.
Day work.
$6,000.

Ellis, bet. Webster and Fillmore. Two two-story frames.
O.—J. Levy.
A.—J. Marquis.
C.—J. H. Sheppard.
$6,500.

F

Fifteenth, bet. Castro and Noe. Two-story frame.
O.—J. Healing.
A.—R. Warren.
C.—J. M. Maher.
$4,800.

Fulton, nr. Scott. Two-story frame, two flats.
O.—F. Volkmann.
A.—Salfield & John.
C.—B. Dryer.
$4,000.

Fifteenth, nr. Market. Two two-story frames.
O. H. Horstmann.
A.—Salfield & John.
C.—J. Klein.
$7,000.

Fifth, bet. Bryant and Brannan. One-story frame foundry.
O.—W. T. Garratt & Co.
C.—C. W. Kinsman.
$4,800.

Folsom, nr. Twenty-second. Five two-story frames.
O.—M. Kane.
A.—M. J. Welch.
C.—Barrett & Cremar.
$12,000.

Fulton, bet. Fillmore and Steiner. Two-story frame.
O.—
Day work.
$4,500.

Franklin, southwest cor. Post. Six two-story frames.
O.—H. Moffat.
A.—Curlett & Cuthbertson.
C.—P. Crichton.
$42,500.

Fifteenth, bet. Noe and Castro. Two-story frame.
O.—James Healing.
A.—George E. Voelkel.
C.—Jos. W. Maher.
$4,500.

Freelon, bet. Fourth and Fifth. Two-story frame school-house.
O.—Father Nugent.
A.—J. J. Clark.
C.—M. Lynch & Preston & McKinnen.
$9,500.

Fell, nr. Buchanan. Additions and alterations.
O.—Geo. Purlenki.
A.—H. Geilfuss.
C.—H. Meyn.
$3,500.

G

Guerrero, bet. Eighteenth and Nineteenth. One-story frame.
O.—J. J. Carroll
A.—P. R. Schmidt.
C.—Cormack & Elam.
$2,200.

Geary, cor. Taylor. Additions and alterations.
O.—F. Bruntz.
A.—J. M. Curtiss.
Day work.
$15,000.

Grove, bet. Larkin and Polk. Two three-story frames.
O.—A. Fassman.
A.—P. R. Schmidt.
C.—A. Norton.
$8,600.

Grove, nr. Polk. Armory Building.
O.—2d Regiment, N. G. of California.
A.—John J. Clark.
Day work.
$6,000.

H

Hickory, nr. Gough. Two-story frame. Two flats.
O.—W. Lang.
A.—Salfield & John.
C.—J. Klein.
$3,000.

Harrison, nr. Second. Additions.
O.—R Mayers.
C.—J. C. Brown.
$2,000.

Howard, bet. Eleventh and Twelfth. Additions.
O.—J. Crowley.
A.—M. J. Welch.
C.—E. & F. J. Owens.
$2,000.

Harrison, cor. Twenty-sixth. One-story frame.
O.—John Ryall.
C.—J. O'Connor.
$1,700.

Harrison, bet. Twenty-fifth and Twenty-sixth. One-story frame.
O.—Mrs. Curran.
C.—W. McKeon.
$900.

Herriman, nr. Fillmore. Two-story frame.
O.—H. Easburg.
A.—W. H. Bayless.
C.—Schaffer & Co.
$2,300.

Haight, nr. Fillmore. Two-story frame.
O.—Mrs. C. Shaw.
A.—S. & J. C. Newsom.
C.—J. Rebman.
$5,000.

Haight, nr. Pierce. Two-story frame.
O.—Dr. G. L. Fitch.
A.—A. J. Nicoll.
C.—R. M. Murry.
$4,200.

Hyde, bet. California and Sacramento. Two-story frame.
O.—A. Gros.
A.—Pissis & Moore.
C.—James Geary.
$6,000.

Haight, northwest cor. Pierce. Three-story frame.
O.—T. Lundy.
A.—T. J. Welch.
C.—J. A. Hayden.
$7,500.

Howard, bet. Fifth and Sixth. Alterations.
O.—B. Pasquale.
A.—B. E. Henriksen.
C.—W. H. Burt.
$1,250.

J

Jessie, bet. Eighteenth and Nineteenth. Three two-story frames.
O.—W. Rippon.
C.—J. Campbell.
$5,000.

Jackson, cor. Franklin. Two-story frame.
O.—W. H. Martin.
A.—Curlett & Cuthbertson.
C. Brick work, R. Mitchell.
$2 100.

Jones, bet. Filbert and Greenwich. Two two-story frames.
O.—Mrs. B. Burke.
A.—Chas. I. Havens.
C.—Cremar & Barrett.
$6,300.

Jackson, northeast cor. Pierce. Three-story frame.
O.—A. N. Drown.
A.—Curlett & Cuthbertson.
C.—Mahoney Bros.
$20,000.

L

Lapidge, nr. Nineteenth. One-story frame.
O. and B.—F. C. Kleebauer.
Day work.
$3,000.

Lott, bet. Tyler and Turk. One-story frame.
O.—T. Kane.
C.—Hocks & Kane.
$1,200.

Lott, bet. Tyler and Turk. One-story frame.
O.—J. Hanley.
C.—B. Kennedy.
$1,000.

Lyon, bet. Tyler and Turk. One-story frame.
O.—B. Golding.
C.—J. J. McKeagne.
$1,600.

Liberty, bet. Noe and Church. Two-story frame.
O.—M. Brock.
A.—Townsend & Wynekin.
C.—H. Cragenbush.
$3,500.

M

Market, bet Church and Sanchez. One and one-half story frame.
O.—J. B. Clott.
C.—Cormack & Elam.
$2,000.

McAllister, cor. Webster. Three-story frame store and two flats.
O.—Mrs. A. Muschler.
A.—C. Kenitzer.
C.—A. Miller.
$7,500.

Mission, bet. Twenty-first and Twenty-second. Two-story frame, two flats.
O.—G. W. Van Dorn.
C. H Inwood.
$5,000.

Minnesota, nr. Solano. Two-story frame.
O.—J. Money.
C.—C. E. Dunshee.
$2,000.

Mission, bet. Fifteenth and Sixteenth. Three-story frame.
O.—J. W. Lahey.
A.—M. J. Welch.
C.—W. F. Fitzpatrick.
$7,000.

Moss, bet. Howard and Folsom. Two-story frame.
O.—J. Moore.
A.—M. J. Welch.
C.—J. J. Dunn.
$3,100.

Montgomery Ave., cor. Union. Three-story frame and brick basement.
O.—L. Goedecke.
A.—W. Moosier.
C. J. C. Classen.
$12,000.

Market, near Jones. Two-story brick.
O.—Beixotto & Silverman.
A.—Copeland & Banks.
C.—Treadwell & Thompson.
$21,185.

Market, bet. Eighth and Ninth. Three-story frame.
O.—L. Haber.
A.—C. Kenitzer.
C.—C. F. Rupper.
$12,000.

Market, cor. Franklin.
O.—J. Nightingale.
A.—A. J. Barnett.
Plastering—John Donovan, $4,350
Plumbing—J. K. Prior, 4,576
Total, $8,926

Market, cor. Fourth. Five-story and basement brick.
O.—J. C. Flood.
A.—A. Laver.
Carpenter—C. C. Terrill, $102,000
Cast iron—R. Llewellyn, 49,000
Wrought iron—Sims & Morris, 45,000
Grading—A. C. Buckman, 5,500
Brick work—McGowan & Butler, 48,000
Total, $249,500

Mission, cor. Twenty-fifth. Three two-story frames.
O.—C. Mangels.
A. Chas. I. Havens.
C.—D. B. Spangler.
$9,000.

Mission, bet Twentieth and Twenty-first. Three-story frame.
O.—H. B. Headley.
A.—P. R. Schmidt.
C.—A. Klahn.
$6,000.

Market, bet. Jones and City Hall Ave. One-story brick.
O.—W. Heller.
A.—P. R. Schmidt.
C.—R. Mitchell.
$3,000.

Mason, nr. Filbert. Three-story frame.
O. and B.—L. Wessman.
Day work.
$5,000

Montgomery Ave, cor. Francisco. Three-story frame.
O.—J. Cano.
C.—M. F. Harley.
$3,500.

N

Noe, nr. Market. Two-story frame.
O.—J. Flood.
C.—Dutton & Kennedy.
$2,000.

Noe, nr. Sanchez. One-story frame.
O.—J. H. Carah.
A.—J. J. Clark.
$3,500.

Ninth, cor. Harrison. Two-story frame.
O.—M. Bohanan.
A.—H. D. Mitchell.
C.—C. Orr.
$5,000.

O

Oak, bet. Fillmore and Webster. One and one-half story frame.
O.—W. Lile.
C.—H. G. Monrad.
$2,200.

Oak, bet. Fillmore and Webster. Two-story frame.
O.—G. Gellispbee.
C.—Martin & Maguire.
$2,500.

Octavia, cor. O'Farrell. Two-story frame.
O.—G. Cohn.
A.—P. R. Schmidt.
C.—Mahoney Bros.
$10,500.

O'Farrell, near Buchanan. One-story frame.
O.—J. J. Brady.
C.—Bateman Bros.
$2,000.

Durham System of House Drainage.

STANDARD WROUGHT IRON STEAM PIPE, Special Fittings, Carefully Protected from Rust, SCREW JOINTS, and only where NECESSARY for Branches, HAND-HOLES at Bends, supported ONLY at Bottom, therefore not affected by SETTLEMENT of Walls and Floors; in fact, a PERMANENTLY TIGHT SANITARY SOIL PIPE.

SEND FOR PAMPHLET. CALL AND SEE FULL SIZE MODEL.

WM. T. BLUNT, C. E., 413 Montgomery St., San Francisco.

P

Pacific, cor. East. Two-story frame.
O.—Geo. Livingston.
C.—W. H. Wharff.
$1,700.

Protrero Ave, bet. Twentieth and Twenty-first. Two one-story frames.
O. and B.—C. E. Dunshee.
Day work.
$2,000.

Post, nr. Scott. Two-story frame.
O. and B.—J. C. Wier.
Day work.
$4,000.

Pine, bet. Broderick and Baker. Two story frame.
O. J. Cassidy.
A. Chas. I. Havens.
C.—M. W. Kain.
$5,250.

Pierce, bet. Tyler and Turk. Two-story frame.
O.—M. Dooley.
Day work.
$4,000.

Pine, cor. Baker. Six two-story frames.
O. and B.—B. F. Norris.
Day work.
$10,000.

Post, bet. Broderick and Baker. Two one-story frames.
O.—H. Johnson.
A.—E. W. Tifft.
Day work.
$3,000.

Pacific, nr. Fillmore. Two-story frame.
O.—
A. W. F. Smith.
C.—G. Hussy.
$4,000.

Park Ave nr. McAllister. Two-story frame and brick basement.
O.—California Title Insurance and Trust Co.
A.—W. F. Smith.
Carpenter—Gray & Storer.
Brick work—R. Mitchell.
$6,000.

R

Ridley, bet. Valencia and Guerrero. Two-story frame, two flats.
O.—D. O'Neill.
A.—R. Warren.
C.—Chase & Taggart.
$4,000.

Ridley, cor Guerrero. Two-story frame.
O. —O. W. Nordwell.
A.—H. Geilfuss.
C.—W. F. Kern.
$5,500.

Rincon Place, cor. Bryant. Alterations.
O. H. Diedrich.
A.—J. J. Clark.
C.—J. J. Dunn.
$3,000.

S

Silver, nr. Fourth. Two-story frame.
O.—M. Mepchtust.
A.—W. C. Hoagland.
C.—I. Selander.
$2,000.

San Jose Ave, nr. Twenty-seventh. Two-story frame.
O. and B.—J. M. Comerford
Day work.
$3,800.

San Jose Ave, nr. Duncan. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,700.

Seventeenth, nr. Sanchez. One-story frame.
O.—Jas. Wolf.
A.—Huerne & Everett.
C.—W. J. Bownrigg.
$2,000.

Sutter, cor. Laguna. Additions.
O.—P. N. Butt.
Day work.
$1,600.

Stevenson, bet. Eighth and Ninth. Two three-story frames.
O.—L. Haber.
A.—C. Kenitver.
C.—C. F. Ruppee.
$8,000.

Sacramento, nr. Stockton. Alterations.
O.—H. Rothschild.
A.—J. E. Wolfe.
C.—J. Smith.
$700.

T

Twenty-seventh, bet. San Jose Ave. and Guerrero. Two two-story frames.
O. and B.—J. M. Comerford.
Day work.
$4,000.

Twenty-third, cor. Bryant. Additions.
C.—G. Rottanger.
Day work.
$5,000.

Twenty-second, bet. Valencia and Guerrero. Two two-story frames.
O.—Dr. M. A. Cachot.
A.—B. E. Henriksen.
C.—T. Steel.
$10,950.

Twenty-sixth, cor. Harrison. Two-story frame.
O.—John Ryall.
A.—M. J. Welch.
C.—J. O. O'Connell.
$1,800.

Twenty-first, cor. Howard. Two-story frame and brick basement.
O.—H. Lwieg.
A.—H. Geilfuss.
C.—F. Klatt.
$16,500.

Thirteenth, cor. Harrison. Two-story frame.
O.—Geo. Masterson.
A.—John J. Clark.
Day work.
$4,000.

Turk, bet. Taylor and Jones. Additions.
O.—M. H. La sak.
A.—J. M. Curtiss.
C.—C. B. Green.
$10,000.

Turk, nr. Franklin. Additions and alterations
O.—F. Bramah.
C.—B. Pfarrer.
$6,000.

Taylor, cor. O'Farrell Two-story frame, four flats.
O.—L. M. Starr.
A.—S. & J. C. Newsom
C.—D. B. Spangler.
$12,000.

V

Van Ness, cor. Ash Ave. Four two-story frames.
O.—J. Rich.
C.—Townsend & Wyneken.
C. —C. H. Plummer.
$20,000.

W

Waller, bet. Buchanan and Webster. One-story frame.
O.—Thos. Magee.
A.—Curlett & Cuthbertson.
C —W. E. Cummings.
$2,000

Webster, bet. Herman and Waller. One-story frame.
O. —L. Goodchild.
A.—Salfield & John.
C.—D. B. Spangler.
$1,400.

Washington, bet. Octavia and Laguna. Additions and alterations.
O.—Wm. Dunphy.
A.—T. J. Welch.
C.—J. Blake.
$12,000.

Y

York, nr. Twenty-third. Additions.
O.—M. L. O'Brien.
A.—G. P. Aston.
C.—H. Wren.
$1,200.

MISCELLANEOUS.

Los Angeles—Main cor. Court. Three-story and basement brick. O., Maxwell & Morra; C., Curlett & Cuthbertson; $20,000. Two-story frame. O., W. H. Mansfield; C., C. S. McNally; $6,000. Main cor. Laurel. Two-story frame. O., Dr. Custer; C., S. H. White; $5,000.

Napa, Caymus. Frame church. O., St. Johns Catholic Church; A., W. H. Corlett; C., M. Vandellur; $5,000.

St Helena and vicinity. Two one-story frames. O., F. F. Barrett; C., Mixon & Son; $2,000. Two-story frame. O., W. J. Kibbler; C., Bassett Bros.; $7,000. Two-story and basement frame. O., M. J. Blanchar; C., Mixon & Son; $6,000. One-story cot; tage. O., Thos. Erwin; day work; $900. Three-story wine cellar; O., John Benson. mason, J. Deluchi; carpenter, Mixon & Son; $10,000. Two-story frame. O., D. R McLennon; day work; $1,600.

San Jose—Market cor. San Fernando. Alterations to brick building. O., Rev. N. Congrato; A., Jacob Lenzen & Son; C., R. Summers; $1,250 San Fernando, opp. San Pedro. O., Horticultural Society; A., Jacob Lenzen & Son; C. F. Davis; $6,000. On the Alameda. Alterations. O., J. Ivancovich; A., Jacob Lenzen & Son; C., H. Skow; $1,300. Second, bet. San Carlos and San Antonio. Two two-story frames. O., J. Hart; A., Jacob Lenzen & Son; C., R. Summers; $4,610. Santa Clara cor. San Fernando. One-story frame. O., Mrs. Fairchild; A., Jacob Lenzen & Son; C., S. W. Lanning; $1,085. On Alameda, bet. San Jose and Santa Clara. Two-story frame and brick basement. O., W. S. Clark; A., Theodore Lenzen; day work; $55,000. Chapman & Davis Tract. One-story frame. O., A. Oswald; A., Jacob Lenzen & Son; C., F. Davis; $1,250. Vine, nr. San Fernando. One-story frame. O., Louis Pfau; A., Jacob Lenzen & Son; C., C. Drew; $1,600.

San Rafael—Two-story frame. O., D. H. Whittenmore; A., W. H. Wharff; $3,400. Two-story frame. O., — Sweeney; A., Pissis & Moore; C., L. Frichette; $11,500.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

The following are a few of the owners who have adopted the HILL BLIND in preference to any other:

U. S. Government, four sets officers' quarters, Presidio Res., S. F.; H. F. Bruns, cor. Geary and Taylor, S. F.; J. C. Weir, Post, near Scott, S. F.; John MacKenzie, cor. Grove and Broderick, S. F.; L. H. Sweeney, San Rafael; R. B. Gray, cor. Pacific and Van Ness, S. F.; Raymond Hotel, 1,600 windows, Pasadena, Cal.

ENGLISH AND AMERICAN VENETIAN BLINDS

IMPROVED.

The only Perfect Venetian Blind in the market. For samples, prices and information, address,

EDWARD B. HINDES, 330 Pine St., Room 55.

PACIFIC COAST AGENT.

Hardware AND Builders' Materials

MPORTERS, WHOLESALE AND RETAIL DEALERS.

A FULL LINE OF

Messrs. P. & F. Corbin's Cold and Silver-Plated, Light and Dark Shades of Plain Antique and Tuscan Bronze, House Trimmings.

ALSO, A FULL LINE OF

CARPENTERS' AND MACHINISTS' TOOLS, CUTLERY, ETC.

SOLE AGENTS FOR

Thomas Morton's Copper and Steel Sash Chains and Patent Attachments. The Niles' Patent Door Knobs and Locks. The Norwich Patent Knob and Screwless Spindle.

F. P. LATSON. J. H. PERINE.

FRANK P. LATSON & CO.,

28 and 30 New Montgomery St., cor. of Jessie,

UNDER PALACE HOTEL. Telephone No. 752. SAN FRANCISCO.

TURNER, KENNEDY & SHAW,

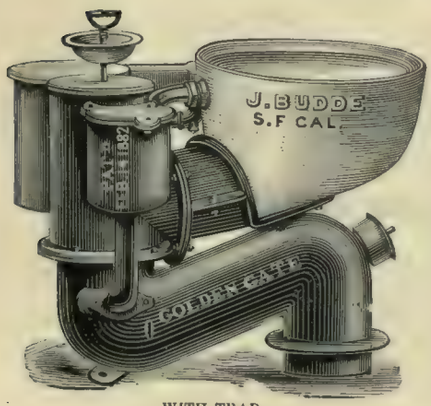
Lumber Dealers, FOURTH AND CHANNEL STREETS, SAN FRANCISCO

Yard Connects direct with C. P. & S. P. R. R. Also with the Shipping.

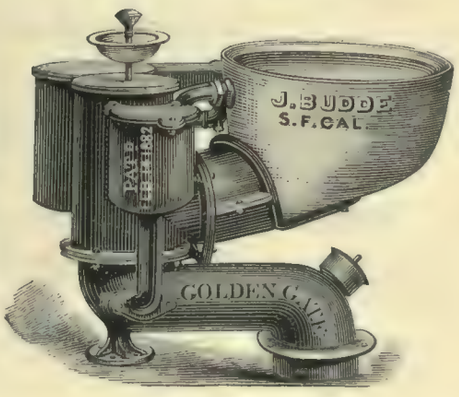
Down Town Office, No. 5 Post St., near Montgomery.

JOSEPH BUDDE'S

PATENT WATER CLOSETS



WITH TRAP.



WITH OFFSET.

The Golden Gate Plug Closet.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

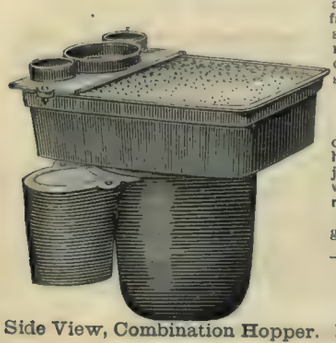
1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.



Side View, Combination Hopper.

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval basin fastened to the cover by brass clamps and bolts. No breaking of putty joints required to renew a pan. The loosening of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

These Closets have been in use since February, 1883. Plumbers and wholesale dealers give them the best recommendation.

Square Slop Hopper. Square Waste Hopper. Basket Hopper.

Basket Hoppers are made in one piece with Movable Strainer.

No. 4.

No. 43 FREMONT STREET,..... .....SAN FRANCISCO, CAL.

Wm. Renton. C. S. Holmes. R. K. Ham.

RENTON, HOLMES & CO.

LUMBER DEALERS

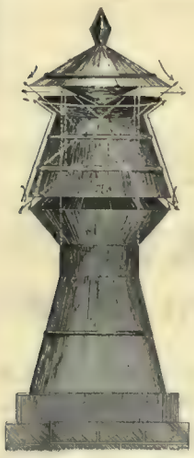
A Complete Assortment of Building Lumber constantly on hand.

SPARS AND PILES OF ALL SIZES IN STOCK.

Office, PIER 3 STEUART STREET, San Francisco, Cal.

Office of the Port Blakely Steam Saw Mill, Puget Sound.

CARGOES FURNISHED TO ORDER. **ALSO YARDS AT ALAMEDA AND VALLEJO.**



"NONE SUCH"

CHIMNEY TOP AND VENTILATOR

THIS VENTILATOR is especially valuable for regulating draft (upwards and downwards) made by the light, unstable atmosphere of the Coast Range of Mountains. The hundreds of tall stovepipes erected on the chimney tops of houses indicate inconvenience and trouble in the kitchen, the parlor, and chambers below.

San Francisco, October 26, 1885.

To whom it may concern:

I take pleasure in stating that the "None Such" Chimney Top and Ventilator, which was put upon the smoke-stack of the Baldwin Hotel about two months ago, has given complete satisfaction.

It has increased the draft to such an extent that there is a perceptible saving in the amount of coal consumed; smaller fires than heretofore will now answer to keep up the steam, thus causing a great saving of the boiler also. We have heretofore had much difficulty in keeping up the amount of steam steadily required, owing to the lack of draft, all of which is now remedied by the use of the "None Such" Chimney Top and Ventilator. I heartily recommend its use to all persons, where a strong draft is required.

PEARSON & ARNOLD,
Proprietors the Baldwin.

All Sizes Manufactured and Sold by KNEASS & CO., 29 Taylor St., San Francisco,

SOLE AGENTS FOR THE PACIFIC COAST.

Agents Wanted for Interior Cities, Oregon, Nevada, Washington Territory, and Arizona

JOB WORK IN ALL ITS BRANCHES.

Descriptive circular and references sent on application.

THOS. DAY & CO., AGENTS PACIFIC COAST,
122 and 124 Sutter Street, - - San Francisco.

PLEASE MENTION THIS PAPER.

ALBUM OF MANTELS.

Containing 60 Designs

In Stone, Slate, Terra Cotta, Brass, Brick, Tile, and wood mantels.

BY C. C. BUCK.

Price, in cloth, - - - - - - $8 00

CALIFORNIA ARTIFICIAL STONE PAVING CO.

SCHILLINGER'S PATENT.

FOR

SIDEWALKS, GARDEN WALKS, CORRIDORS, OFFICES, CARRIAGE DRIVES, STABLE AND CELLAR FLOORS, KITCHENS, ETC.

The Courts here and in the East have decided that Artificial Stone Pavements with plastic concrete and in detached blocks are infringements of the Schillinger Patent; and also that when the plastic material is blocked off with a trowel and cut through far enough to control the cracking caused by shrinkage, that such pavement is in law the same as if laid in detached blocks, and is an infringement of the patent. All property owners having such pavements laid without the license of the above Company will be prosecuted.

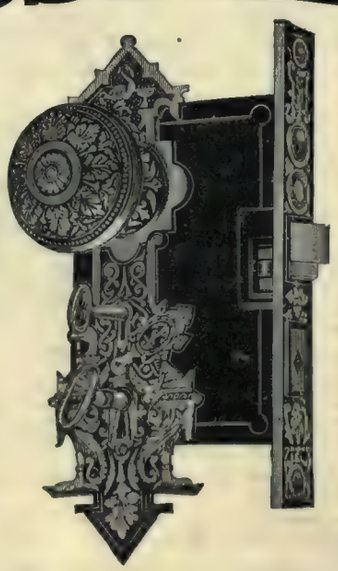
Office, 404 Montgomery Street, San Francisco.

EGBERT JUDSON, President. **ALBERT H. REICHLING, Secretary.** **G. GOODMAN, Manager.**

FABIAN JOOST. BEHREND JOOST.

JOOST BROS.

Hardware *Importers,*



A Full and Complete Line of

Real Bronze House Trimmings,

FROM THE CELEBRATED

RUSSELL & IRWIN MANUFACTURING CO.

NEW BRITAIN, CONN.,

The only Locks having the **Patent Antifriction Latch.**

LIGHT BRONZE, DARK BRONZE,

ANTIQUE BRONZE.

Just received, an entirely new design in both Light and Dark Bronze:

DAMASCENE FINISH,

Unrivalled for Beauty of Workmanship.

A Complete Assortment of Locks, including the

EASTLAKE DESIGN

of Bronze Goods of

MALLORY, WHEELER & CO.,

NEW HAVEN, CONN.

MORRIS SASH LOCKS,
WARNER'S PAT. ADJUSTABLE
SLIDING DOOR HANGERS,
GONNE PATENT DOOR KNOBS.

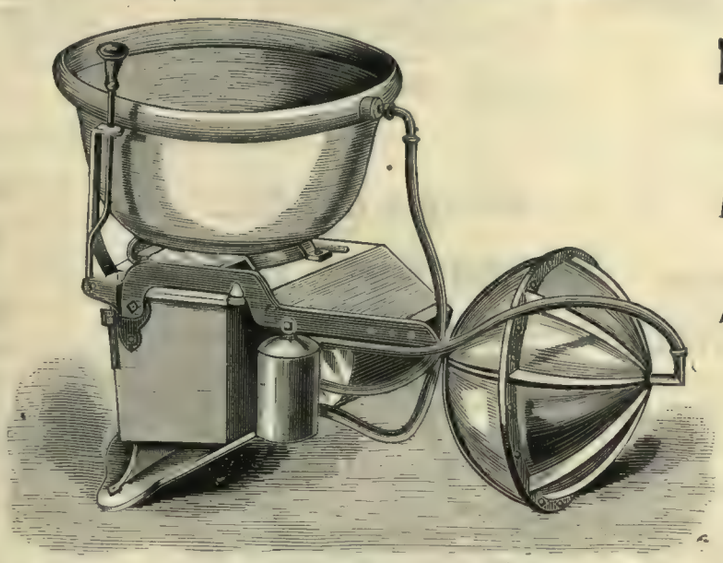
1438-1440 Mission Street, near 11th, San Francisco Cal.

SACK'S AUTOMATIC SELF-DISCHARGING

WATER CLOSET,

THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.



Economy!! Cleanliness! Health

Persons Engaged in Sanitary Enterprises,

ARCHITECTS. CONTRACTORS AND BUILDERS

Are especially invited to examine the practical workings of

Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns *every house* into a SANITARIUM, and is an assurance to those who trust it, that neither *sewer gas* nor *noxious vapors* that invade our houses freighted with *disease* and *death*, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! *It has no "overflow,"* rendering it a positive seal against *sewer gas* and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal;" nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

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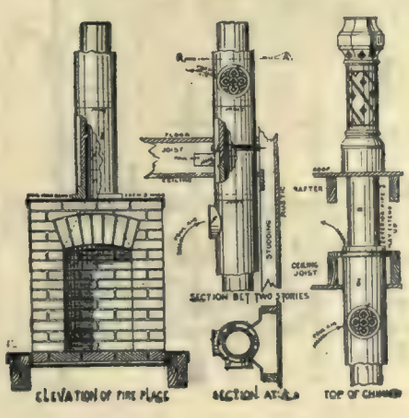

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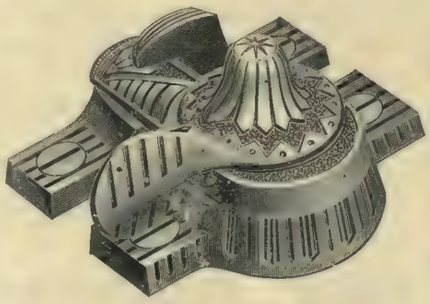

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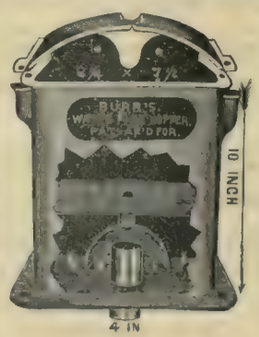

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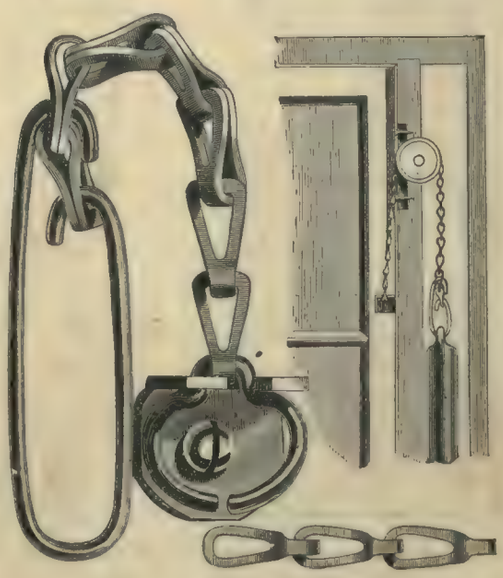

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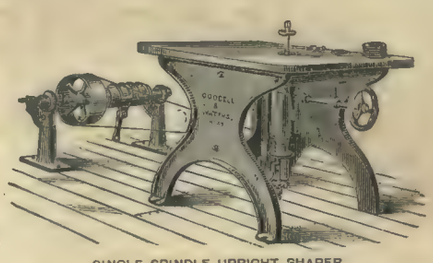

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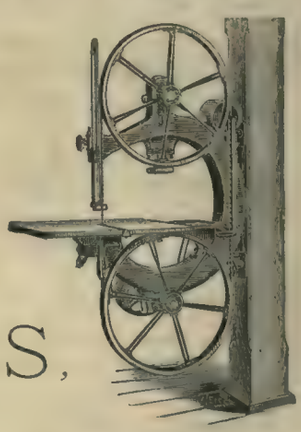

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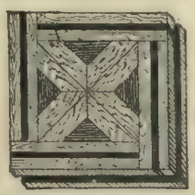

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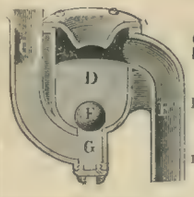

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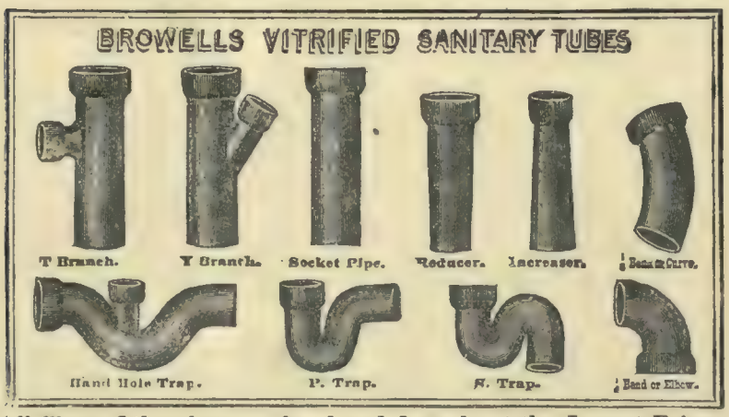

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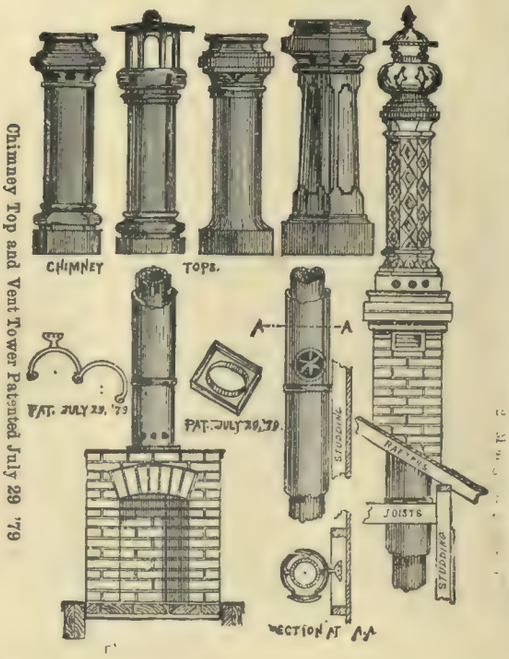

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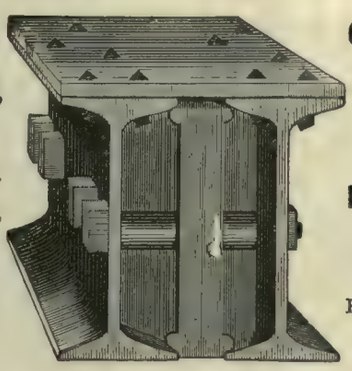

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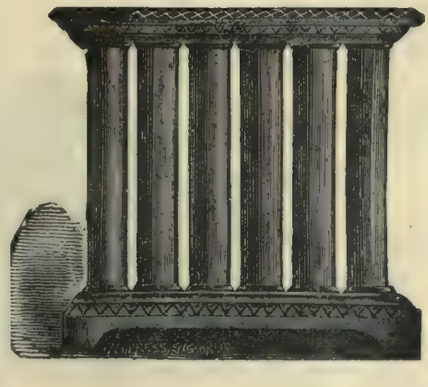

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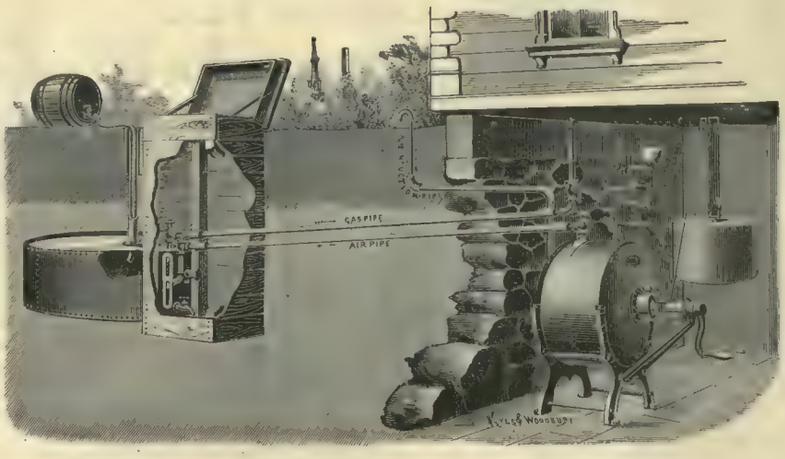

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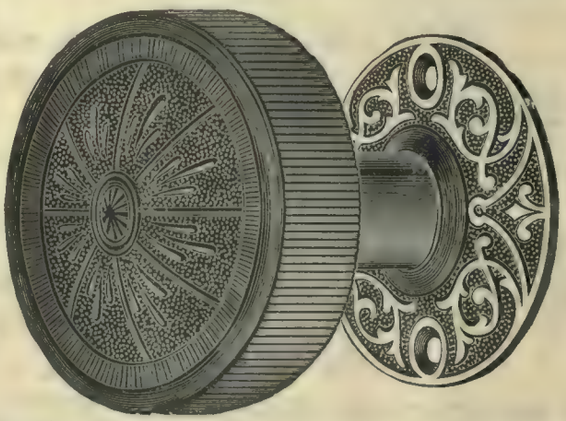

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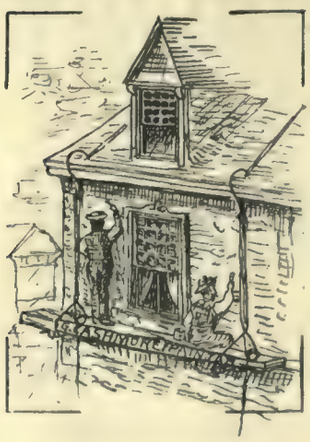

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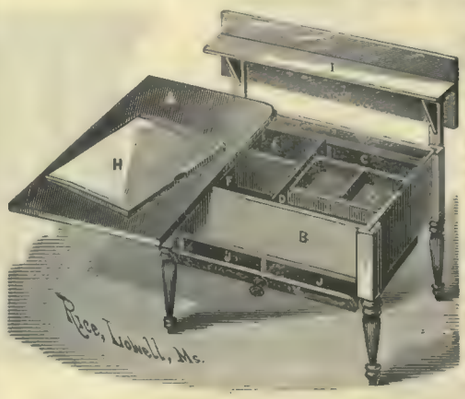

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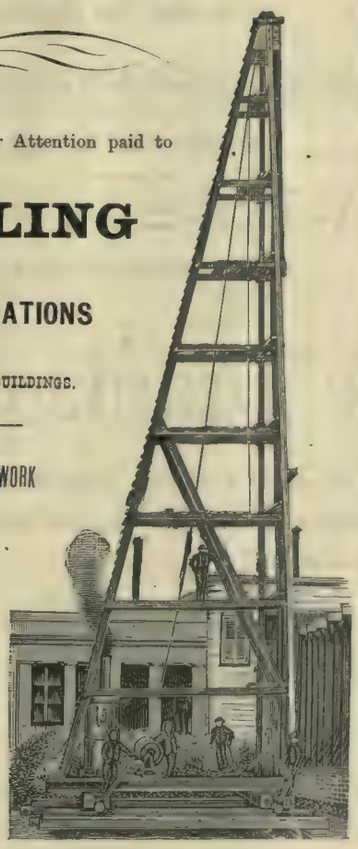

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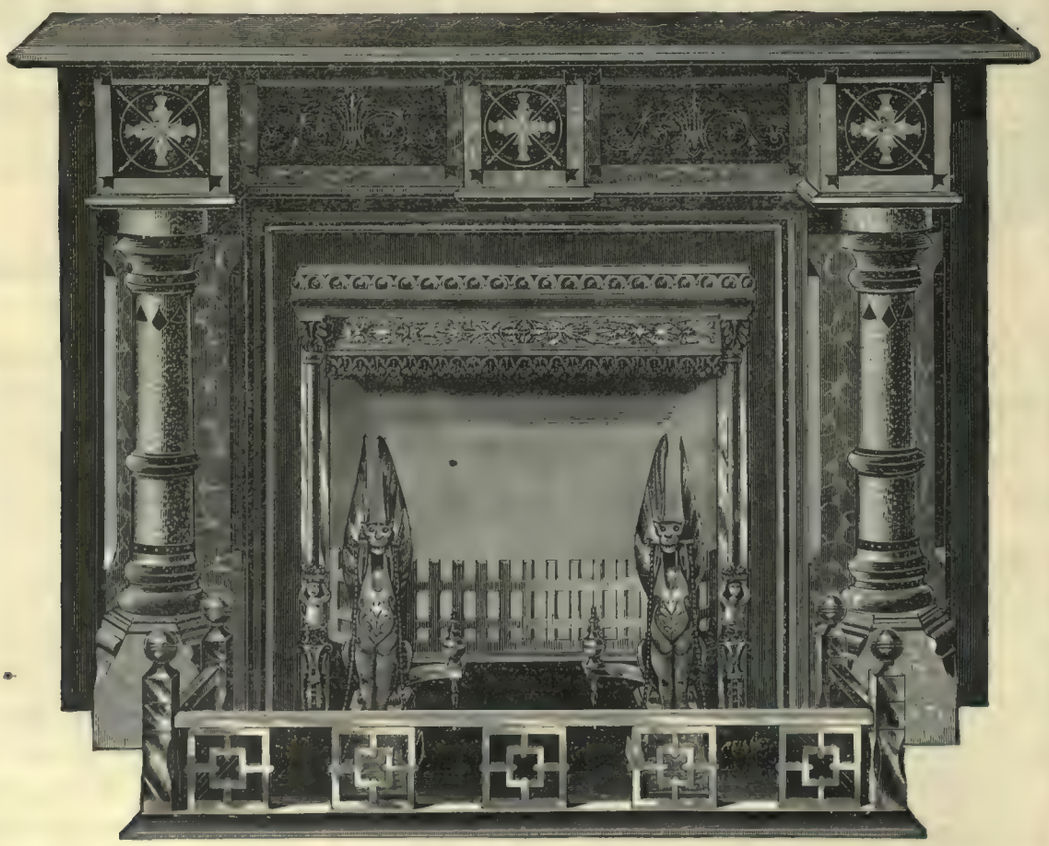

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" brick, 1	"	10,000
Alterations and additions, 12	"	45,160
Total for the month, 95	"	$401,539
FOR THE SAME PERIOD IN 1885.		
Engagements, frame, 126	"	$469,100
" brick, 2	"	72,000
Alterations and additions, 20	"	60,810
Total for the month, 148	"	$601,910
Showing a decrease for 1886 of—Engagements, 53	"	200,371
First Quarterly Report for 1886—Engagements, 252	"	$1,359,532
Second Quarterly Report for 1886—Engagements, 418	"	2,127,101
Total for first six months, 1886—Engagements, 670	"	$3,486,633
First Quarterly Report for 1885—Engagements, 291	"	$1,967,750
Second Quarterly Report for 1885—Engagements, 463	"	2,299,625
Total for first six months in 1885—Engagements, 754	"	$4,267,375
Showing a decrease for the first six months in 1886 of—Engagements, 84	"	$780,742

In view of the fact that the preceding year was one of extraordinary activities, the falling off, as shown by present report, should not be considered discouraging; for the movements in building operations are fully up to the requirements of the times, and a greater rush would simply add to the number of houses to rent, which, while not numerous, are sufficient to suggest a little moderation for the present.

The demand for good draughtsmen during the month has been large, owing to the competition for the Court House and jail at Stockton, which required a large force to compile ten sets of plans for a single building, three-fourths of which labor was simply thrown away, not a farthing being paid for the services rendered, beyond the paltry sum of premiums, insufficient in amount to compensate for a single set of plans, even had one architect received the entire amount. But with the *divis* and expenses deducted, the actual balance to the premium parties will be but little, and the rest of the competitors, who were silly enough to waste their time in efforts to secure results not assured upon merit, can only console themselves with the glory of the attempt, and hold their conceptions as the reward of their folly, and be ready for the next move made by some Board of Supervisors to humbug ambitious aspirants into another farcical competition, which nine-tenths, if not forty-nine-fiftieths, of all general competitions are.

To Our Friends.

THE proposition announced in another part of this issue, offering to *dispose of our entire interest in this journal*, will be a surprise to very many of its readers, and, in view of the fact that *it is*, and *is recognized* as, one of the journalistic successes of the period, it will naturally lead to inquiry as to the reasons for the course proposed.

We answer: It is a conclusion most reluctantly reached; *but there is a period in human life when nature calls for relief from* EXCESSIVE *cares and labor; when ambitions should yield to the restful peace of contentment with that which has been accomplished.*

More than is meet for one to attempt, is not wise; nor can any one divide between two pursuits the time required for one, and do either well.

This we realize, and therefore propose to relinquish our editorial relationships, and devote ourselves exclusively to the duties of our profession as practicing architect, with the earnest hope and desire that those who succeed us may, in every way, be fitted and qualified for the responsible duties of directing and managing its future successfully, profitably, and alike creditably to themselves and to the class journal literature of the United States.

The multiplicity of personal engagements, and other drawbacks and interruptions in our editorial work, have imposed UNDUE and EXCESSIVE mental and physical labors, and prevented the utilization of the

NUMEROUS POSSIBILITIES OF THE SITUATION,

Which are practical, accessible, and important, and rightly manipulated, sufficient in themselves to furnish an almost exhaustless amount of matter and fact for future publication.

A change of management will also remove all the objections, prejudices, and jealousies more or less existing among architects, builders, and others, by reason of the fact of its being published by a *practicing architect*. For while it has been edited and conducted upon the broadest and most generous and liberal principles, consistent with its reputation as a representative journal, carefully avoiding and excluding all matter and references which could—in reason, without torture or forced construction of plain language, and a total disregard of fair interpretation of intended meanings—be charged as designed for personal, *professional benefit*, still there are those who claim to be able to trace the personal feature in every issue, from which they draw the conclusion and advocate the theory that a practicing architect in the chair editorial, no matter what the qualifications, is improperly seated.

We have realized and do realize the delicacy of our position in this regard, and have often restrained the free use of our pen in directions where to have done so would have been attributed to wrong motives on our part.

This restraint need not exist under a new administration, and we hope our successor will exercise his fullest liberty without fear or favor; for in California, of all other places, those who read journals of any class, like fire and force in the lines they read, eloquence simplified to the common understanding, and information and instruction plainly and clearly expressed.

AS AN INDIVIDUAL ENTERPRISE,

It offers strong inducements for investment, as, in the hands of right parties, it can be made

THE VERY BEST PAYING CLASS JOURNAL PUBLISHED WEST OF THE ROCKY MOUNTAINS.

And the fact is beyond all question, that a journal of its kind is an *absolute necessity in San Francisco*, to represent all interests in any manner pertaining to the architecture, erection, decoration, furnishing, and completion in every detail, of buildings of every class, together with all mechanical, laboring, manufacturing, and producing interests.

ITS PRESTIGE.

Occupying the field alone during the past eight years—the quarterly of 1879 included—has gained for it a

SUBSTANTIAL AND PERMANENT ADVANTAGE

Over all possible competition. And its most favorable recognition by the class journals of the United States and Europe has secured to it a widely spread popularity and prominence, which time, energy, and money alone could secure. The journal and

all its interests are entirely free and clear from all indebtedness and incumbrances.

Its future in the hands of an *incorporated company of architects and builders, collectively or separately, or of individuals seeking investment, with proper editorial and managerial appointments, can be made to yield a large return upon the sum required in its purchase and improvement;* particularly so, if, combined with the journal enterprise, there is a complete outfit and presses added for general and job printing, in addition to the journal work. We have thus far continued the printing, etc., of the journal by contract, but have frequently considered favorably the arrangement above suggested, and declined its adoption solely upon the ground that such a course would augment cares and responsibilities of which we have had more than we wish to continue in the journal work alone, in addition to our numerous architectural engagements and duties.

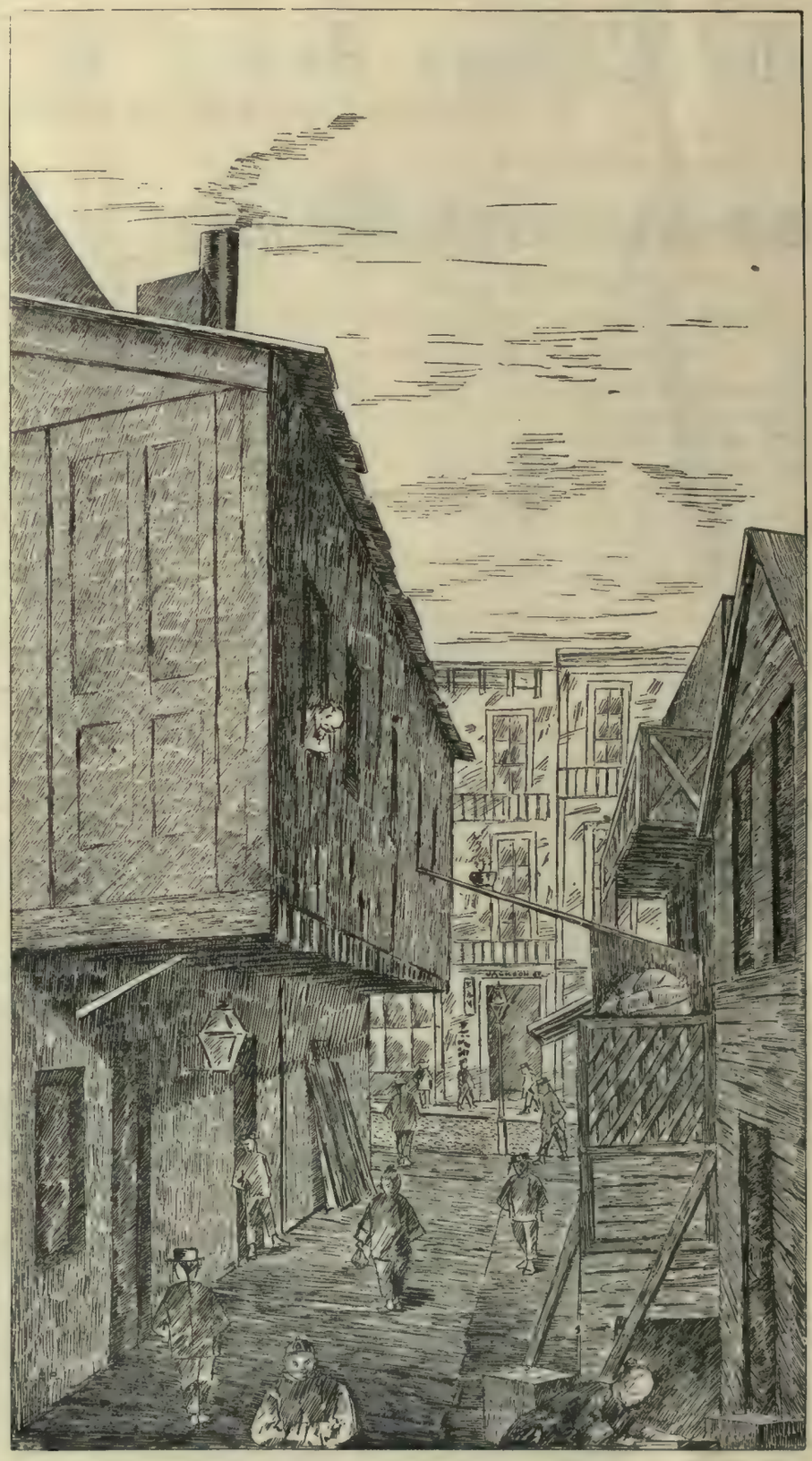
It is but seldom that an interest of so great value and assured prospects is offered for sale, but, feeling the twofold weight of professional and editorial responsibilities, it is a personal duty to ourselves to be content with the results of the former.

Redwood vs. Brick Foundations.

IN the "early days of California," redwood was considered to be a suitable and lasting material for foundation purposes, and was almost universally adopted. Many stories were related in regard to its durability, among which was one, that a certain post then (1851–52) standing in a "perfect state of preservation" at Santa Clara, had been planted by "the fathers, a hundred years ago." The general impression prevailed that redwood would last for all time, and nothing better was necessary for foundations, as a rule. But experience has demonstrated the fallacy of these first formed opinions, and shown that the redwood of California yields to the processes of decay when placed in the ground, varying only in rapidity of decomposition, according to the special characteristics of the earth, sand, or clay formation in which it is bedded, and the sapless quality of the wood itself. The black-heart redwood is far preferable to the softer, more puncky and fibrous wood, but for many years it has been difficult to obtain the better kind in quantities, without selecting and extra cost. So that while some of the earlier put in foundations, where the better quality of redwood was employed, have lasted well, the material generally used at the present time, and for a few years back, is from upland growth, and will not last one-half as long, particularly with the common practice of the day, not to spend any time in selecting the really good pieces, and rejecting the bad, but to "take it from the pile," using all that does not possess conspicuously bad defects; and contractors generally are not critical in their judgment on this score. When a load of lumber is sent to a building, the next most important question is its speedy consumption in the work of construction, which might be retarded if portions of the materials were set aside, and a delay occasioned until a substitution could be effected. So, generally the good and bad go in together, either and both of which answer all purposes to the fulfillment of the contract, and the matter of last and decay is left with the owner, as a matter to be attended to as after circumstances may develop.

The old wood foundations of very many buildings have been substituted by brick, and many more will have to be. Some very good structures rest on wood foundations, but the progress of decay and settling is such that changes are necessary. The removal of the poorer for the better and more durable is always expensive, and more or less damaging to the edifice. The difference between wood and brick is so small that no prudent man who is not pressed in circumstances is wise to build on wood foundations.

There are, however, in San Francisco, localities where either redwood or Oregon pine will last for generations, if not forever. Along the filled-in city front, where timber is bedded below the



St. Lewis Alley north end. Chinatown.

tide level, rot does not occur. Illustrations establishing this fact can be seen at the office of this journal, one of which is of Oregon pine, taken from the foundation of an old brick building which stood on the northeast corner of Battery and Sacramento

St. Louis Alley South End - Chinatown

Streets. It was placed in the ground in 1852, as planking under the walls of the building, and removed in 1875 for the erection of a new edifice. It is not only apparently as sound as ever, but exhibits signs of petrification, and perhaps would have maintained its soundness for a hundred years or more, if it did not by that time assume an everlasting character. Two other samples, one of redwood and another of Oregon pine, taken from the old bulkhead built on the line of Market Street, below First, on the property of Mark Sheldon, Esq., as nearly as can be ascertained, built in 1852, and removed in 1885, show no sign of decay. Each of these were, however, buried in the mud, at or below tide water. The fourth example, in contrast, is from a foundation renewed under a building erected on Sacramento Street, above Franklin. The house was built in 1874, and when re-underpined, in the latter part of 1878, the redwood taken out was more or less badly rotten, and, as may be seen by the sample, portions of the mudsills so thoroughly decomposed that chunks of it can be crumbled up in the hand like so much dry earth, scarcely sufficient fibrous tenacity remaining to resist the gentlest touch. From the foregoing, it is proper to advise that owners who desire substantial and lasting buildings should in all cases adopt brick, stone, or other indestructible material for foundations.

Interiors and Furniture.

EDITOR CALIFORNIA ARCHITECT: It certainly seems to me that persons who contemplate building homes for themselves will do well to consider thoroughly all of the points and features, present and prospective, before giving orders for their plans. Now, we all know that the general course pursued is to consult an architect, tell him what kind of a house is wanted, how much money is to be expended, and if these primary considerations are all satisfactory, the order is given to proceed with the plans. The house is finally erected, but as the total cost may have exceeded first expectations, economy becomes necessary in the fitting up of the interior, and the furniture and elaborations have to be curtailed. Now, it certainly seems to me that most people display a want of good taste and judgment in profuse exterior finishes, and exhaust their means in that which possesses no practical value as far as the real comforts of home are concerned, as compared with the pleasures to be derived from a due consideration of, and provisions for furniture and internal finishes. But few owners consider these points, or consult with their architects as to what furniture and finish will best suit certain rooms. This matter they reserve to themselves, and hence great inconsistencies exist in many fine edifices. Now, in my opinion, it is important that more attention should be paid to interior fittings and furniture. The greater portion of the leisure hours are spent with the family around the fireside, and therefore it is highly important that the surroundings should be pleasing, which cannot be when there is a lack of harmony in those things which the eye must see and the hands handle. The furniture and decorations should be suitable for the respective rooms. Among the first thoughts in connection with the building of a home should be the matter of furniture, so as to secure a final result satisfactory in every particular, which can be obtained by proper attention in the premises. Often the pleasure excited by exterior appearances receives a check upon the survey of the internal finishes and furniture. The confusions of styles, and absence of appropriateness, diminish the final admiration of all parts. The trims and finishes of the rooms may be in the Gothic style, but the furniture may be of no style, or a medley of all styles

—the chairs being, perhaps, Renaissance, the table no particular style, the mirror Grecian, the mantel Egyptian, and the carpet some gaudy thing without any particular appropriateness or design. Too much care cannot be exercised in these and all other particulars, so as to insure harmony and appropriateness. The matter of hardwood finishes is one which adds much to the comforts of home where there is an appreciation of the beautiful and elegant, while the extra cost to indulge in them, in certain rooms, is not so great as to preclude their use where absolute restriction in outlay does not exist.

FRONT ELEVATION.

But many men erect homes which they admire, but have no conception of the style of its architecture. The only thing clearly understood by them is, that the front door is the principal entrance to the building. But the effect of the interior finishes and furniture is a different thing. The commonest mind is enabled to distinguish between interior harmonies and distracted taste, or no taste at all. Consistency and harmony in these particulars enlarge and increase the pleasures of home; for where all the parts harmonize, pleasurable results follow, inspiring the sentiment, "there is no place like home."

It is not necessary to expend large amounts of money to accomplish the suggestions herein made. As a rule, furniture can be obtained made to order from original designs, at about the price that similar things would cost in any first-class establishment ready made, and it would certainly be more satisfactory.

A word or two on the subject of finishing may not be amiss. Take for instance the parlor. It should present a cheerful and pleasing appearance. The trim may be in some bright-colored wood, say butternut, prima vera or cherry, combined with black walnut; or, if preferred, make it all black walnut. The furniture should show quiet taste, simple in construction, but strongly made. If carvings are added they should be from natural subjects. In fact, a piece of furniture should be like a book—something from which to educate the mind. The carpets should be of quiet colors, harmonizing with the curtains and hangings. The hall, if laid in hard wood, say two inches wide, with a narrow carpet, presents a fine appearance; and if the hat-rack is placed in a recess, removes an obstacle which generally exists in halls; and if doors with cut or colored glass inclose the same, so much the better. A dining-room with floor of hard wood, either continuous lengths of narrow widths or in ornamental figures, would obviate the expense of carpets, except the cost of a rug in the center for the table, which, with neatly-paneled wainscoting, paneled ceiling, and trim of openings in butternut or oak, or other suitable hard wood, make a neat finish. The side-board should be built in a niche, and in my opinion should be a picture of the building and part of the room. The table should be of proper size, with the legs well under it, so that those sitting around it would not be required to hold a table leg between their knees.

Now, my reader, let me remark, that when you are ready to build, take the advice of your architect in reference to the interior finish and furniture of your building. When you are sick, you send for a physician. When you want to build, consult an architect; and in doing so, consult him in everything, for his studies and experiences qualify him to be your best adviser.

W. D. B.

Honorable Emulations.

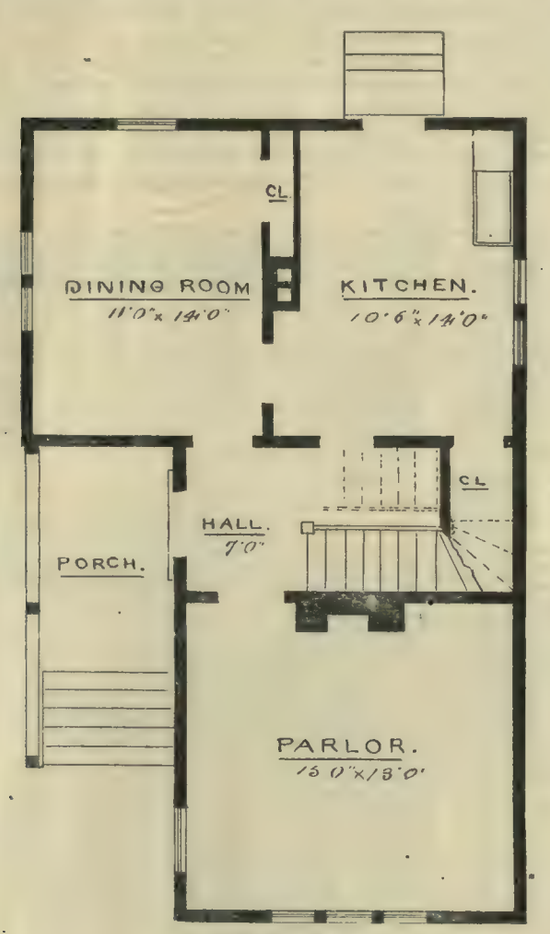
PRACTICED in the higher and more elevated senses, free from all the belittling influences of the human mind, they are proper and productive of good, and tend to higher developments, and greater and grander results to mankind. They are simply the result of mind upon mind, thought feeding thought, and he who produces the greater should honor the source from whence his thinking came. For the larger part of the brain, scientific and mechanical developments of the nineteenth century, derive their source of origination in something that has been suggested, produced, or expressed in ages gone by. There is scarcely anything of recent production which does not find its *thought inception* in the past; as the steam, with its ten thousand applications and uses, came to light through the humble teakettle, and the prolific brain of a boy. And those who have emulated and improved upon those first thoughts, are indebted to a very insignificant and humble origin.

The proudest achievements of the present day are largely the borrowed ideas of the past. Perhaps the origin in many cases may be very obscure, and their obscurity may almost obliterate identity, yet the germ has been planted in years or centuries gone by, and as still and quiet inspirations have come to men of later days, from inconceivable sources, their minds have enlarged and expanded into greater achievements, whether scientific, intellectual, or mechanical, commanding and receiving the admiration of the world. The world is a great school-house, and all men are scholars, some bright and apt to learn, while others are dull and slow, groping along in mediocracy and scaling down to the lower grades of humble life, and some sinking into the depths of vice and degradation. The apt scholars grasping, mastering, and perfecting the more difficult problems, bringing forth hidden treasures of mind and matter, and making the world wiser, brighter, and better. As the rains from the clouds descend to refresh, invigorate, and fructify the earth, causing the seed planted in the soil, the trees and flowers, to grow and mature, and produce other seed and fruit, so do good and bad, wise and unwise thoughts spread broadcast before the world give birth to other thoughts, similar in kind, and the fields of good and evil, advancement and retrograde, are replenished and enlarged by the daily developments of life.

PERSPECTIVE SKETCH.

Personal glorifications too generally enter into results produced and laudations are poured upon those who have simply improved upon and perfected results, from the conceptions of some other and perhaps humbler minds to whom the birth right properly belonged. As Jacob, through his mother's device, secured to himself the birthright of Esau, so have thousands since that time secured to themselves credit and praise for results produced, which would not have been conceived or reached by them, had not the origin existed in other quarters. Still, honorable emulations are proper, and the world and society are improved and

rendered wiser and better by the opening up of new, and the onward march of *improved thought*. And while present generations rejoice in their attainments over the past, they are furnishing ideas which will be emulated and improved upon in the future, by those who will hereafter perform their part in the great drama of life; and with increased learnings and experiences as age after age rolls on in the great volume of time, other and greater accessions will be made to the record of mind develop-



FIRST FLOOR.

ments, and one after another will appear on earth, simply to emulate, and still further improve upon the past and present, adding link to link, lengthening the great chain of human thought, results and developments, the ends of which will never meet, until human life shall cease, and the great family of mankind pass from earth.

REPORT OF COMMITTEE

APPOINTED BY

San Francisco Chapter, A. I. A.

TO CONSIDER AND REPORT UPON THE MATTER OF

PLAN COMPETITION

FOR THE PROPOSED

STOCKTON COURT HOUSE AND JAIL.

SAN FRANCISCO, May 14, 1886.

To the officers and members of San Francisco Chapter, American Institute of Architects:—

YOUR committee to whom was referred for consideration and report, the matter of competitive plans invited by the Board of Supervisors of San Joaquin County, State of California, in connection with the erection of a public building to be located in the city of Stockton, and for the purposes of Court House and county jail, respectfully report and submit the following:—

That the invitation issued to architects by said Board to submit plans for said building, contains provisions and features recognized by the profession generally as objectionable, and subversive of all right rules which should govern in all such cases.

That the conditions and propositions are inequitable, and therefore unjust; that the sums proposed as awards are insufficient—the cost of the building considered—and not so apportioned as to be an inducement to qualified and competent men, to employ their time and professional skill in the preparation of plans; that the apparent arrangements are such as to invite and make possible the practice of manipulations, the like of which, in many well-known instances have wrought great injustice upon architects who have relied *wholly* and *only* upon the merits of their plans for success; that the retention by the Board of all plans receiving awards of premiums, should receive the unqualified condemnation of San Francisco Chapter, and all intelligent architects individually, as a suspicious means, through and by which great injustice may be, and in other cases have been accomplished, by the controlling powers selecting any one set of plans to receive the first premium, whether meritorious or otherwise; thus preparing the way for placing the work in the hands of preferred parties, and then in execution adopting in part or as a whole, either of the other premium plans, as the basis of construction; thus depriving their authors of the professional credit and financial profits which should accrue to them.

Such things are both supposable and possible, because known to have been so often repeated, that a large majority of qualified architects refuse to participate in any class of competitions; the fact being recognized in professional circles, that fair and just results are seldom meeted out to participants.

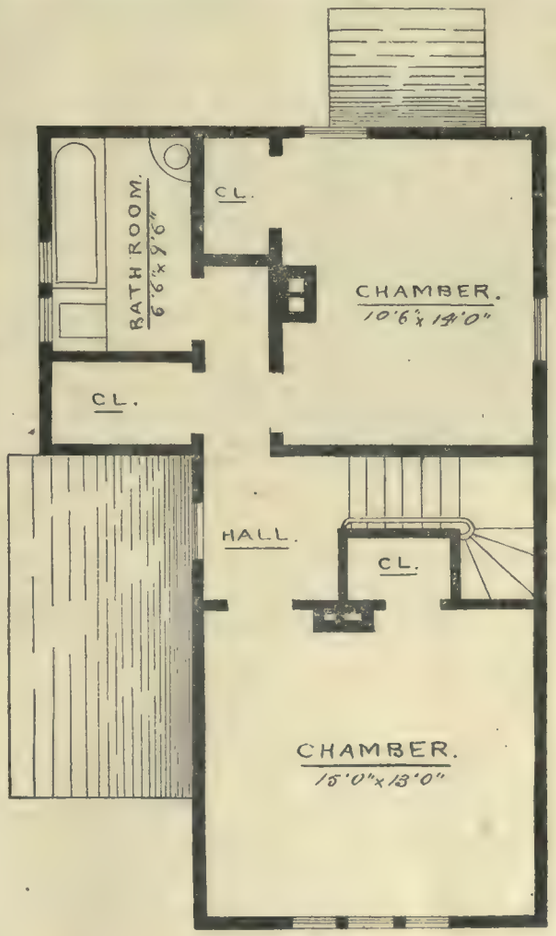
The propositions tacitly expressed, to terminate all architectural services with the adoption of plans, is unjust. If this is adhered to, then the all-important and material work of details and construction must be entrusted to some favored party, who may or may not be competent. Whether this is intended as challanging the integrity of architects, or is provided to serve special purposes, it is a course which, if persisted in, must and will militate against the best interests of the commonwealth supplying the funds for construction. And if the proposition is not suggested in good faith, with full intent to carry the same into practical execution, then its present intimation is misleading and deceptive.

The Board certainly has erred in withholding the assurance of full architectural services and fee to the successful competitor. The right of an architect to furnish details, and supervise the construction of buildings planned by him, is one recognized and held throughout the profession, universal—as sacred. It cannot be questioned that the man who conceives and matures thought and study into practical illustrations on paper, is the better and only one fully qualified to exemplify such thoughts in practical execution. Plans are but outward expression of general ideas in tangible form—the germ of proportions and fitness lying in the development of the unexpressed thoughts, made complete through the harmonies and combinations in the details.

The need for the services of architects in planning important edifices, is universally conceded, in and by the fact that such services are sought in all such cases, as an indispensable requirement—Stockton not excepted; and so sought because of their value and materiality. Then why these studied efforts to withhold from those whose services and skill are admittedly so essential, fair, full and right compensation for services performed?

An important omission also appears in the entire absence of any provision for an impartial and intelligent arbitration of the merits of the respective plans. While this should be done by experienced and reliable men, fully qualified by practical, architectural and mechanical experiences—men entirely disinterested and free from all bias and personal or local interests or feelings,—such determination, and the rights and equities of the competing parties are left contingent upon the judgment, whims, and caprices of the honorable Board, and such influences as may be brought to bear.

It further appears that this is another of the numerous cases in which



SECOND FLOOR.

the attempt is being made to procure three sets of plans for a public building, at a price far below the rates of charges established by architectural societies, and the usages of the profession the civilized world over—for a single set—total cost of building considered; in addition to the large wastage of time and labor by those whose chances of any award is exceedingly remote and doubtful.

While it may not be, and confessedly is not within the province, power, or influence of San Francisco Chapter, nor any number of chapters combined, to define and dictate rules, regulations, and methods of procedures in matters of competition for any class of building, nor to prescribe and regulate conditions, fix rates of compensation, nor determine the rights and privileges that shall be held as binding in such cases, we may, as a Chapter, and as individual architects, express our hearty disapproval of practices and procedures which are calculated to be, and in numerous well-known instances have, been so prolific in impositions upon our fair and equitable rights, that the echoes of favoritism, tricks, schemes, plots, and manipulations are, and reasonably may be pre-supposed in every case where general competitions are invited.

The intimations outlined may appear comprehensive, and to some questionable; but the facts known in architectural circles are such that we feel warranted in the assumption, that the reasonable and possible proofs fully sustain all and more than is intimated in this report.

We further recommend that no member of this Chapter, nor any reputable practicing architect in this State, countenance or participate in the competition in question, nor any of like objectionable character that may hereafter be offered for general competition.

In conclusion, we claim that, as a Chapter, and as individual members of an honorable profession, we have just and honorable rights which should be respected by those desiring our professional service; that the intelligence, knowledge, skill, and proficiency enjoyed by all qualified architects, are the results of arduous study and earnest devotion to their high calling, and as a Chapter, and as individual members, we would not be just to ourselves to remain silent and permit infringements of our rights to pass without an expression of disapproval.

All of which is respectfully submitted.

JAMES E. WOLFE,
HENRY C. MACY,
GEORGE H. SANDERS,
WILLIAM CURLETT.
Committee.

The above report was unanimously adopted as expressive of the views and sentiments of the Chapter upon the subject matter involved in the report.

Art and Architecture.

[Special for this Journal. By F. Hillert, Architect and Mechanical Engineer.]

IN the first part of the present century, some architects at the time had the praiseworthy ambition—so far as the ambition went—to invent the sixth order of architecture; but it was simply recommended to them to study the orders existing, to study the principles of art and the laws of nature governing them.

This continent was settled by the Caucasian race of Europe. The southerly part was invaded and conquered by Spain, the conquerors having in the one hand the sword, in the other the emblems of Christianity. Judging from the constant strife and struggle, the Spanish conquerors were not able and rigorous enough to create out of the existing and destroyed civilization a new and better culture. The object of the conquerors was to gather from the conquered, treasures to be brought to the homes of the conquerors; they gave nothing in return. Christianity has not fulfilled its mission.

The northern part was peaceably settled by emigration from nations of the European countries, the emigrants bringing with them their customs, knowledge, culture, and unlimited energy, to make themselves here a new and happy home under the wings of liberty, social and religious, and a moderate climate, conditions required for a progressive, higher culture, if not retarded and stopped by political strife, interference and undisputed dishonesty.

The culture forming here had its beginning, its history, and tradition at the homes of the emigrant, and to there we must look and turn for information and assistance. So is it with art and architecture. The architect cannot invent a new style of architecture, unless he invents and applies a new building material, of a different cohesive structure than the one used in old and present times.

Art and architecture, to produce works of art, result from the collective exertions of all nations, from the very cradle of humanity. A true work of art will only be produced by genius, or by the application of rules on esthetics, reason formed from art work, and based on the laws of nature, and not by trying to produce something without that thought and phantasy have been exerted. The rule of thumb will not make a new style. Some works of pretension, appearing in execution and in print, show no symmetry and symmetrical equilibrium; do not bear out the stamp of purpose and utility. They are unnatural, and not truthful. They show really the want of knowledge of the beautiful, and of thought; and simply to criticise them in the spirit of art, would be doing injustice, unless it is known that the designer was in possession of the laws of the beautiful; when, being conscious of the same, he would and could not help using and applying them.

When architecture follows the dictations of popular fashions, of an unartistical taste and useless purpose, and imitating those vagaries and abnormities of an unhealthy imagination, over and over again, then this is a sign of a degenerated art time. When architects of some pretensions send off such work on the public, such artists have failed in their mission as instructors and cultivators of the public taste. Art, then, has failed to take its place in the general culture of mankind.

Modern architecture has no new style or types. It uses old perceptions, improving them in form and beauty, assisted in the execution of this work by a perfected mechanism and skill. Different is it with mechanical science, which in the last half century has made large strides in the progress, aided by the progressive sciences. To it society is indebted for the immense progress made in every branch of human activity.

I. UNALIENABLE DRIFT IN MEN FOR ACTIVITY.

The necessity of self-preservation compels man, even at the lowest state of culture, to express his wants and make an effort on the natural things surrounding him, to use them to satisfy his wants. The cravings of hunger compel the individual man to seek food to sustain his existence; the feeling of cold, to find shelter; these, and other wants and needs, compel him to exert his mental and bodily powers to provide against them. The first and primitive drift in man, is a deeply seated instinct for the exertion of his energies.

The result of his exertions on the outside world, and the benefits derived hereby, create in him not only satisfaction, but also the action itself. The feeling of his power, and the confidence in using the same, create pleasure and delight in him. He is urged from action to action; and therein rest in human beings an unalienable drift and impulse, the proof of which every leaf in history shows, and a glance in his own bosom proves.

II. THREE KINDS OF ACTIVITY.

In three kinds of activity, in which all human efforts range and concentrate, this natural drift shows and expresses itself, and obtains final results, which designate and mark the highest

possibilities of our feeling, actions, and thinking. As ideal, without which human being is impossible, and accordingly to it, are set up the ideas of liberty, immortality, and of God himself.

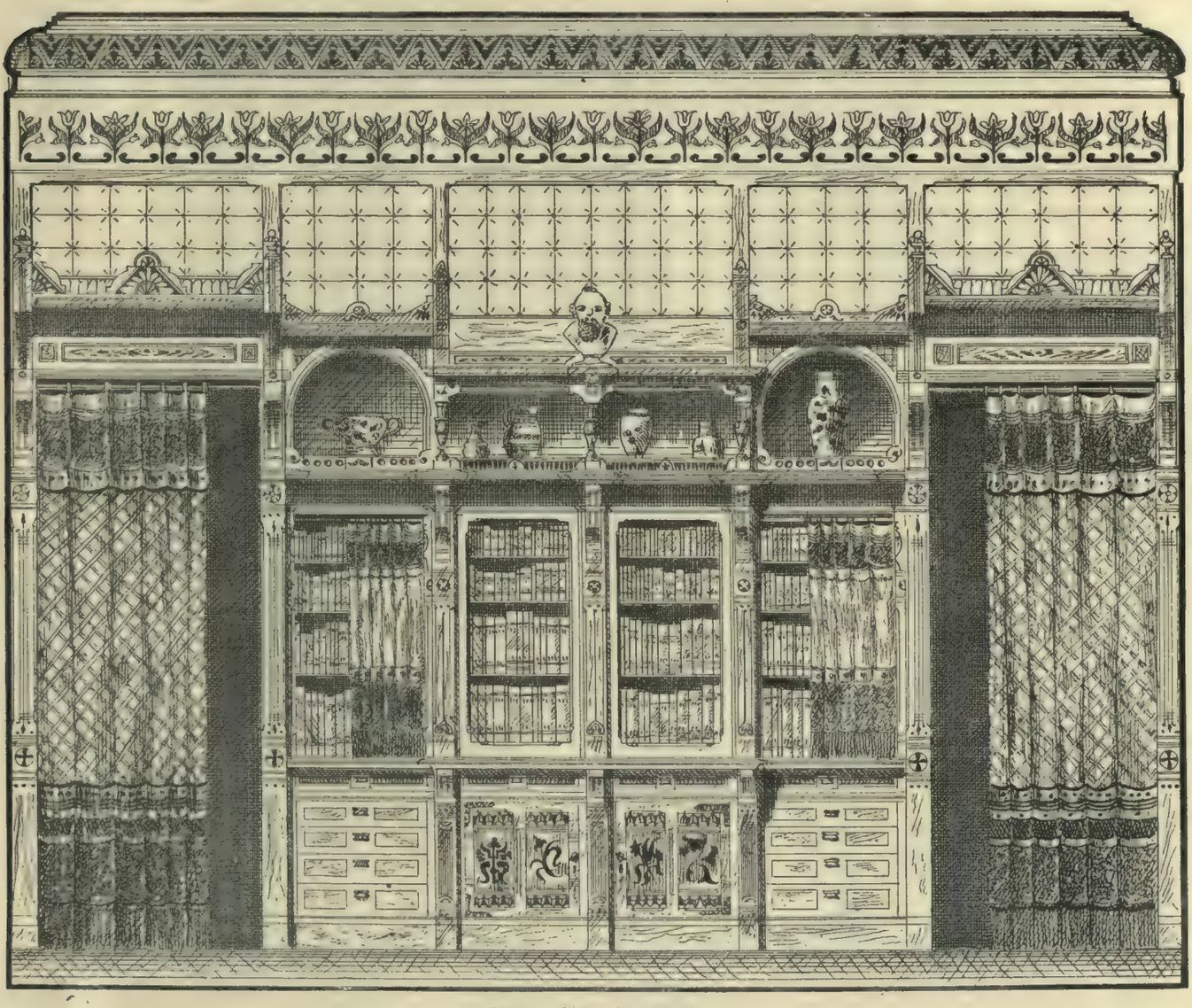
Liberty is the highest aim of our will, to which reason prescribes the laws of morality, without which, liberty is impossible. The idea of God leads to truth, then out of the conception of God, as the highest condition of the possibility of all, follows the perception of truth. The idea of immortality leads to beauty. Then the preservation of human products in their first original form, amid the constant changes of nature, gives us a presentiment of eternal duration, and we name, without prejudice to other definitions of beauty, the most perfect of such products, out of which, more than of others, the semblance of imperishability is shown, beauty.

The aims of all human efforts are, therefore, in intellectual respects, truth; in ethics, liberty, and in esthetics, beauty.

III. EXISTENCE OF THE SAME.

The natural instinct in its three different forms exists in every man, and shows itself with all nations, from the first and oldest traces of human culture up to our present day. The child's

question, "What is it," on seeing a strange object, is an expression of his inner instinct after truth. The struggle of a grown person with his bad instincts is nothing else but his effort for liberty; and the crippling of the feet of the Chinese woman is only the outcome of the instinct for beauty. Everywhere are perceptible the traces and the results of the activity of these impulses; here, in a known, clear practice; there, in an unknown, instinctive expression; here, in a uniform, systematic relation; there, in a sharp contrast of crude exaggeration and stupid neglect. With the India man the intellectual capacity is very small, the ethic laws deficient, and the esthetic creations, or forms, variegated exaggerations of an unclear phantasy. Harmony and accord predominated with the ancient Greeks. In the Middle Ages the intellectual stood back. Ethic and esthetic were shrouded and tied to positive, unremovable and fixed statuary laws and forms. In modern times these spheres balance each other more and more.



WALL OF A LIBRARY.

IV. PROGRESSIVE DEVELOPMENT OF THE SAME. FIRST, IN THE ETHIC DOMAIN.

Only those denying history will dispute progress, and deny the educational advance made by mankind in ethical respect, during the last thousand years. From barbaric custom and degrading slavery, men lifted themselves to a regulated form of state, and to nobler, finer sentiments. But neither the theocracy of the Jews in their supersensible doubtfulness, nor the democracy of the Greeks in their dissoluble development; neither the Jew's polygamy, nor the Greek's contempt of woman, designate a happy solution of the important part of the moral problem. Milder customs and perceptions were brought about and introduced by Christianity. But the sanctity of family, love of fellowship, and the pure moral laws, stood under an outside influence, not necessarily belonging to the spirit of Christianity, and gradually threatened to destroy the fruits of one and a half thousand years—threatened to make the priest a god. Our time created a clear way and put a stop by the secretions of the sick places; at least it tried, even if not everywhere with success; and open warfare exists yet between its spirit and the one of its predecessor. But only in conflict man tries his powers, and is the same decided, destiny will call on him again. But our time makes its moral law by the sentence, "Do good for the sake of good," which is comprehensible, and points hereby to the rapture consummated to the obedience of human fancy or to the dogmas of ecclesiastic by means of education to the belief of temporary or eternal punishment or blessedness.

V. IN THE INTELLECTUAL SPHERE.

The thoughts of men moved in an uninterrupted progressive education through centuries, even if the particular developing epochs were only of short duration and seldom returned. But in the time between them the attained culture acted quietly and powerfully, in making large strides onward, and preparing out of itself a new power, which again, together with the remnants of the old, started the same developing process over again. From the nearest outside things to begin, which thought men, as if it were, the spelling of thinking, he went over to other meditations on himself, inquiring after the laws of thinking and the boundary of his reason; he inquired after the connection of nature and the cause of all being—God.

VI. IN THE ESTHETIC SPHERE.

Not less is the same continuous succession to a continuous higher development in the esthetic sphere in existence. If we concentrate the exertions of the human intellectual drift in this direction in the widest sense, we comprehend hereby every change made on the objects nature has offered, and we will here unite all arrangements for the exterior living—all things that serve for the necessity, utility, convenience, education and the pleasure. It is evident that from the men of remote antiquity, living in forest and caverns, to the men living in wooden huts or

solid houses, the most influenced progress took place. Just so from this to the one which gave to the letter thousand tongues; to the wheel the speed of the wind; to the transmission of thought the speed of lightning. So on in general and the whole. A certain kind of things is between them, which we do not actually call necessary, useful, instructive, or agreeable, but which we call beautiful. These we separate and select from the many, to explore, investigate, and unite scientifically; and this is the problem of art history. To recognize their beauty and prominently the spirit of them, is the subject matter of the fine arts, or esthetic, in a limited sense.

The word esthetic means every observation made by our senses. In such an expansion it was used, setting in opposition esthetic and logic in relation to the sensible observation and reason. In the late new language, it is confined only to beautiful things, and we understand, in general, by esthetic, the science of the beautiful.

VII. CONTINUOUS PROGRESS IN ALL THREE SPHERES.

The progress in intellectual, ethic, and esthetic relation increases in an uninterrupted succession, notwithstanding the seeming retrogration and stagnation in the activity of man; and with his larger achievements grows his next problem, and so on; thus a never-resting process of development is uninterruptedly effected, being the result and consequence of preceding conditions and the necessary conditions of all later exertions. Then it seems as if at many times, many nations were at a complete standstill; that the development and progress of the human race was at rest. This was even only seemingly. Unobserved, here and there, are germs of culture formed, and at another place just at the same time important visible steps of progress are made. An illustration may be cited: the first centuries of our independent Christianity. They discarded the old culture, philosophy, forms of state, literature and art, and returned in thinking and forming to cruder customs, their ethic feeling inclined to supersensible fanaticism, and missed frequently the right position and relation to actual life. But notwithstanding this clearly visible retrogration, the most powerful progress was effected in the necessary fundamental principles, and later centuries proved that this time was of a far-reaching consequence, and its appearance was conditioned by the inner necessity.

VIII. COMMUNITY IN ALL THREE SPHERES.

The expression of the esthetic impulse in man is the first; then, before he is capable and in a position to think and to act morally, other objects impress on his mind, through his senses, and his necessary wants and requirements compel him to approach them direct, and unknowingly make them serviceable to himself. His first exertions are instinctively those of forming, moulding. From the simplest forms of formation, the club, broken from a tree, with which he killed an animal, men progressed continuously to make a multitude of well-formed instruments and tools, made well-arranged habitations, hereby above all assisted by the promethic gift of the fire. But now he began to act; the one was the master of the other; parents brought up their children; families united to larger communities; and, lastly, originated from many such families and communities a whole—a State—in which ruled a law made and sanctioned by all, or they were governed by the fancy of a chief. In the same time the unknown impulse led men to inquire of the cause of the nature surrounding him, and also of himself, and brought him to think of the same as of a divine spirit. So was religion formed. Inasmuch as not one has much truth, as imperfection and sham is in each, they are, nevertheless, the most important means of culture of the human race, and early man manifested the desire to make himself of that which he venerated as the highest cause, a picture or image, to give to his sensitive views a nutriment heretofore required. If now he venerated the fire, it was easily made; was it an animal, he shaped it as well as he could, or something similar; was it a higher developed spirit, he fell to the impossibility and adhered to the commands which the servants of this god, the ecclesiastics, proclaimed as his divine will. Fitting samples are the Brahman pictures of the India people, with their fantastic monstrosities. Liberal thinking outside of the ecclesiastic rules could alone be serviceable in this direction, and, consequently, art returned to the simple and natural. So with the Greek nation. When the human race has once outgrown its primitive condition, its impulses are rarified and refined from the instincts to the known, and are in a constant reciprocity, leading in a constant flow to a harmonious expression of all impulses together. The action must be forethought; the forming and shaping desired and wanted, and even thinking itself can only, by exercise, give sense to those of action and forming and made capable to turn to the abstract; then a purely contemplative condition towards nature cannot be thought of. In this large, general, and intensive reciprocity, men strive together for truth, liberty, and beauty, and try to perfect their beings in every direction.

(To be continued.)

The Average Life of Buildings.

"HOW long does it take for a city to re-build itself?" said the Building Inspector. "Well, that depends upon the progressiveness of the city. I should say about seventy-five years. That is the average life of a building now-a-days. There are very few houses in this city that were standing seventy-five years ago. The old houses on North Capitol Street, built by General Washington, are older than that, and there are other old buildings, but I am speaking of private houses. The buildings erected by the Government, under careful supervision and at great expense, of course, are more durable structures than those erected for private residences. The building which is being erected by Mr. Abell, on F Street, will cost more per foot, I suppose, than most Government buildings. No; it may not be a good investment, but it is not being put up as an investment; it is a monument. The new State, War, and Navy Department Building is, however, just as well built as that. That building will be standing a thousand years from now. It may, of course, need some repairs before that time, and the roof, of course, may have to be rebuilt. No material or work is allowed to go into that building unless it is up to the standard. The army engineers who have charge are very strict. Of course a private individual would not put up such a building. It would not pay. Yes; good brick ought to be as durable as stone. It depends a great deal upon the manner in which the bricks are laid. Good mortar becomes harder with age. It becomes harder than the brick itself. When dry bricks are laid during the warm months the bricks will absorb all the strength of the mortar. Brick laid at such a time ought to be wet. A wall erected in April or May, or October and November, of sufficient thickness, ought to last two or three centuries."—*Washington Star.*

IN a recent editorial article entitled "Architectural Conservatism Indoors," the *British Architect* draws the following characteristics of English architecture:—

"We are, as a profession, too conservative, and too apt to reject a useful suggestion because it happens to be new and contrary to our preconceived notions of what is right according to recognized rules and practice. We think some of the fault of this conservatism can be traced to a lack of thorough education, and the consequent inability to found a correct judgment upon things practical and theoretical, which may not have been included in past experience. Then, again, we need a more liberal spirit of inquiry amongst us, and instead of using a material or an article merely because it is made by a particular firm, there should be some certain knowledge on the part of the architect that no better is in the market. And when a new suggestion is made, or a new invention brought out, which has a reasonable likelihood of being turned to practical account, it is as well to try how best it can be utilized, rather than to see how effectually we can put stumbling-blocks in the way of its adoption."

Much of which is, without doubt, equally true of our American architects.

ACCORDING to the *British Architect*, there is some talk of erecting the huge metallic tower invented by M. Eiffel, the mechanical engineer, on some convenient site within the precincts of the Paris Exhibition Buildings, and it is also satisfactory to know that a jury of experts will be impaneled to decide upon its structural safety prior to its erection. It will be 300 meters in height, and entirely constructed of iron. It will rest on five pillars, forming four immense arcades, lofty enough to exceed in height the towers of Notre Dame. On the summit of the tower will be erected an electric light-house, and a terrace to which visitors will be admitted. The form of the tower is specially adapted to give it stability in high winds. The oscillation at the top, under the influence of the most severe storm, will not exceed 75 centimeters. On a first platform, at a height of 70 meters, there will be a gallery of glass, which may be used as a café, or restaurant. A lift will take visitors to the summit. The expense of construction is estimated at from 5,000,000 to 5,500,000 francs.

THE elaboration of interior decoration with hard woods is increasing to a great extent in the cities, and dadoes of satin, maple, cherry, mahogany, etc., are freely used.

THE NEWLY-CONSTRUCTED PORTION OF THE FACADE AT SANTA MARIA DEL FIORE, FLORENCE.—Prof. De Fabris, Architect.

THIS JOURNAL

WITH ALL ITS INTERESTS,

WILL BE DISPOSED OF

TO

Parties Qualified to Assume Its Management and Control.

THE

California Architect & Building News

IS THE PIONEER JOURNAL

Published Within the Boundaries of the Pacific States of America,

IN THE INTERESTS OF

Architectural, Building, and Collateral Sciences,

AND THE

Manufacturing and Labor Arts and Interests.

Its publication as a Monthly was inaugurated during the dark and gloomy period of 1880 preceded by the Quarterly of 1879. And from the feeble beginning, which then lacked all the essential elements of journalistic experience, in addition to the absence of innumerable facilities requisite to its publication,

It Has Grown in Reputation and Influence,

Until It Is Now Recognized,

Throughout the United States and Europe,

AS THE

Representative and Leading Class Journal

Published West of the Rocky Mountains,

IN THE INTERESTS IT ADVOCATES.

The Following Notices, Selected from Scores of Like Character, Illustrate Its High Position and Standing in the Field of Class Journalism.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is considerably enlarged and very much improved mechanically and editorially, which places it in the fore rank of class journals, where it belongs. It is a credit to this coast, and we take pleasure in perusing its clear and entertaining pages. —*Alameda Semi-Weekly Argus*, Jan. 23, 1886.

Another old friend, the CALIFORNIA ARCHITECT AND BUILDING NEWS, is greatly improved by its new form and style. —*American Architect*, Feb. 13, 1886.

The first number of the eighth volume of the CALIFORNIA ARCHITECT AND BUILDING NEWS appears in an enlarged form and new type. These signs of prosperity denote an appreciation of the journal by those in whose interests it is ably conducted.—*S. F. Chronicle*, Jan. 18, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS.—We find it one of the best architectural journals published, and, unlike some journals, it believes in justice to all, and upholds all legitimate efforts for the elevation of mankind, whether "professionals" or "laboring men." We wish it success and recommend it to our readers.—*Granite Cutters' Journal*, Philadelphia, Pa., Feb., 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS has been enlarged and much improved. The number issued to-day would be a credit to any city.—*S. F. Daily Report*, Jan. 16, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS in its new dress and make-up renders it more acceptable than ever. It is always replete with valuable matter, and is ever an acceptable visitor.—*Alameda Encinal*, Feb. 3, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS appears in greatly improved and enlarged form. The current number, we think, is the best that has been issued. It shows wonderful improvement within the past two years. It is just such a journal as is needed for the Pacific Coast.—*Northwestern Farm and Dairyman*, Feb. 11, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS, enlarged and much improved in appearances. As to its contents, it has always been good. It is the best class paper that comes to our table, and we always find it worth perusal.—*Lakeport Democrat*, Feb. 20, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS appears in an enlarged form and new type. These signs of prosperity denote appreciation by those in whose interest it is ably conducted. It has a large circulation. We wish it success. —*Weekly Sun*, Jan. 23, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is the leading architectural monthly of the Pacific Coast. Its articles are well written on important topics.—*Brooklyn Real Estate Review*.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is the official organ of the association of architects, and is a fit representative of that interest. It should find a wide circulation.—*Petaluma Weekly Argus*, Jan. 23, 1886.

The CALIFORNIA ARCHITECT comes to us this month very much improved in every way—a decided credit to the Pacific Coast.—*Brick, Tile, and Pottery Gazette*, Jan., 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is a very useful and interesting publication. It is handsomely illustrated with designs for home and business buildings.—*Reno Evening Gazette*, Jan. 21, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is a monthly journal devoted to architecture, building, decorating, and furnishing, and is the official organ of the Pacific Coast association of architects. In its enlarged form it is most admirable.—*New Age*, S. F., Jan. 21, 1886.

The CALIFORNIA ARCHITECT, in its enlarged and improved form, is a publication which will interest all who are connected with the building trade.—*News Letter*, Jan. 30, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS comes to us very much enlarged and improved. It holds its own remarkably well against the older Eastern journals of the same class.—*American Building Association News*, Chicago, Feb., 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is an invaluable periodical, not only to architects and contractors, but to house owners as well. It gives valuable plans for houses, and careful attention to drainage, ventilation, and sewerage.—*Daily San Jose Herald*, Feb. 3, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS comes to our table enlarged and materially improved. This enterprising journal, we are pleased to note, is keeping pace with the demand of a growing constituency.—*Northwestern Architect*, Feb., 1886.

ITS PUBLICATION IN SAN FRANCISCO,

DEVELOPED IN THE FULLNESS OF ITS POSSIBILITIES, is a universally accepted necessity; and under increased,

ENERGETIC, ENTERPRISING, AND COMPETENT MANAGEMENT,

Parties who can and will devote their TIME and TALENTS to the work, it is destined to become

A PEER IN AMERICAN CLASS JOURNALISM.

If from the adverse surroundings of its inception, with the many divided professional and other engagements and duties of its founder, it has been brought to its PRESENT, but by NO MEANS

ITS POSSIBLE STANDING AND REPUTATION,

What may it not become, with its interests and destinies under more **Efficient, Diligent, Capable, and Scholarly Editorial and Managerial Control and Direction?**

———:o:———

THE ARCHITECTURAL PROFESSION requires a Journal of its kind to represent its interests; to assist in sustaining unselfish and generous relationships; to advocate the right and expose wrongs wherever found in architectural circles, and assist in promoting fraternal ethics, and every right and reputable course calculated to elevate the honorable and worthy members of the profession far above the reach of reproach or disrepute, and, by all reasonable, right means, fix upon those who degrade and disgrace the profession, the mark of professional ignominy. In these directions this Journal has accomplished much, but more remains to be done.

CONTRACTORS AND BUILDERS of every class need it as a medium through and by which they may learn of every new fact and principle in mechanical science, and cultivate and develop into practice, those rules and methods best calculated to improve them as men and master mechanics—to furnish them with all current, local facts of interest, and give information from every city and town upon the Coast in reference to prospective works of public and private character.

TO MECHANICS AND WAGE-EARNERS it is a great necessity, as all men, high and low, learn and grow wiser by what they read, and the impressions made upon the senses by lines and figures representing ideas and conclusions of facts.

MANUFACTURERS AND PRODUCERS of building materials and devices of every kind need it as a means of communication with consumers.

THE COMMON INTERESTS OF THE STATE require it as a means of information at home and abroad, as to its unbounded resources in timber, building stone, marbles, iron, and numerous other valuable deposits and productions.

OWNERS OF PROPERTY require it as a channel through which they may be informed upon all matters relating to the erection of buildings.

CARPENTERS, MASONS, PLASTERERS, PLUMBERS, PAINTERS,

DECORATORS, FURNISHERS, AND ARTISANS GENERALLY,

Require it as a nucleus in and around which their interests may center, and through which each alike may derive special benefit.

Its Future is Full of Assurance and Promise.

With All Possibilities Wisely Utilized and Judiciously Handled, but which, from force of circumstances, have been to a large extent hitherto neglected, it may be more than doubled in every interest.

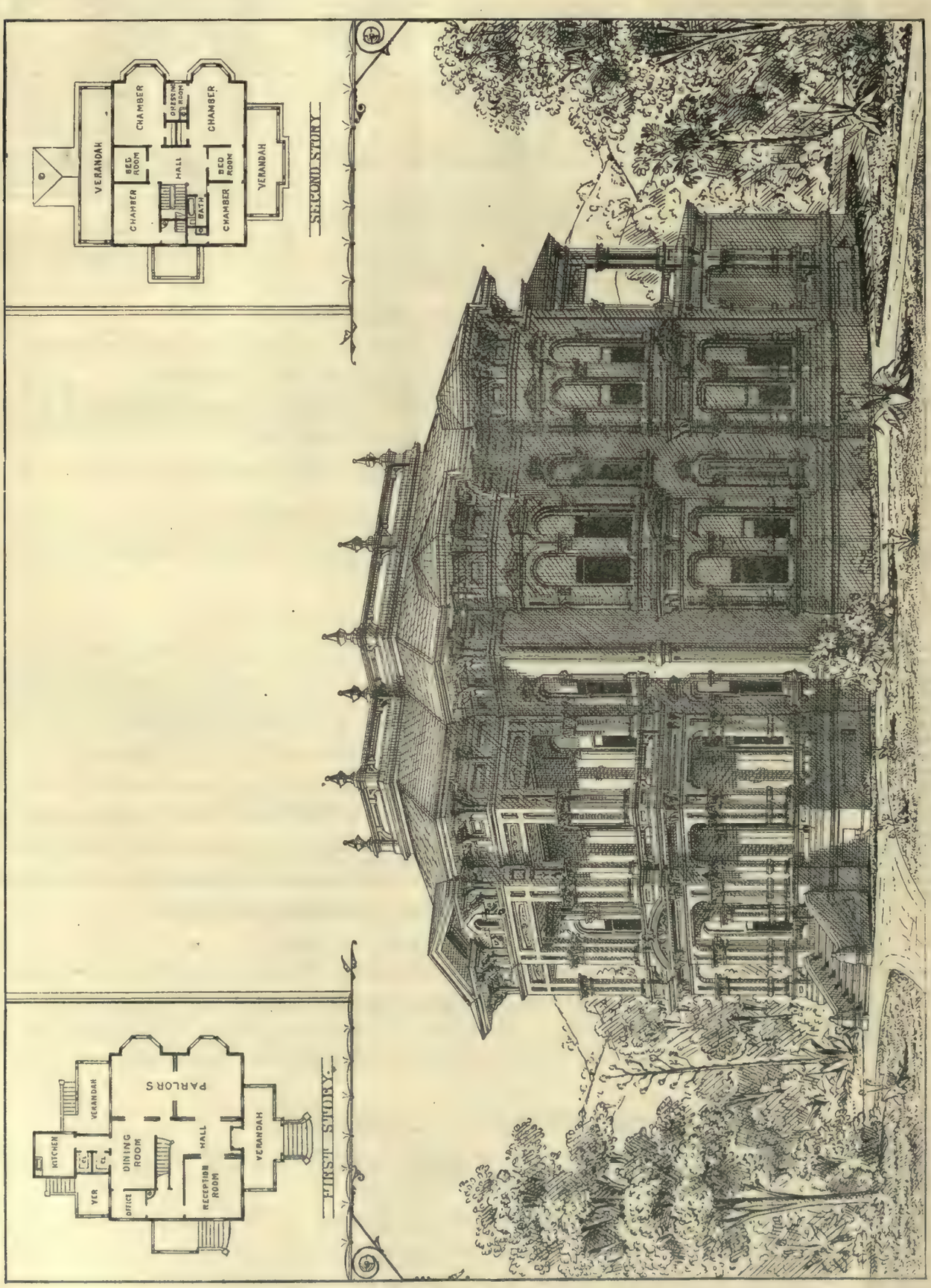
———:o:———

ITS ADVERTISING PATRONAGE.

But few Class Journals present better evidence of substantial prosperity and general favor than is shown by the advertising column of this Journal. Yet not one-half of what may be, has been reached. LOCAL ADVERTISEMENTS can be greatly increased and a large, neglected PATRONAGE FROM THE EASTERN STATES SECURED.

THIS PROPOSITION OF SALE

Is made to relieve ourselves from the excessive and double cares and responsibilities involved in editing a Class Journal and pursuing the responsible duties of practicing architect—to the latter of which we propose to devote our undivided attention, yielding control of the Journal, we hope, to more able and competent hands. We also hope its future will pass to some one of the manor born—some live Californian, familiar with all coast and local interests and requirements, either individually or in the form of an incorporated company. But if not this, then that some Good—Eastern, Western, Northern, or Southern—Man will enter the field with complete connections with all great centers of business and life, east, west, north, and south, and give not only to California, but to the people of the United States, Europe, and All Civilized Places on the Globe, a Journal of Peerless Merit.



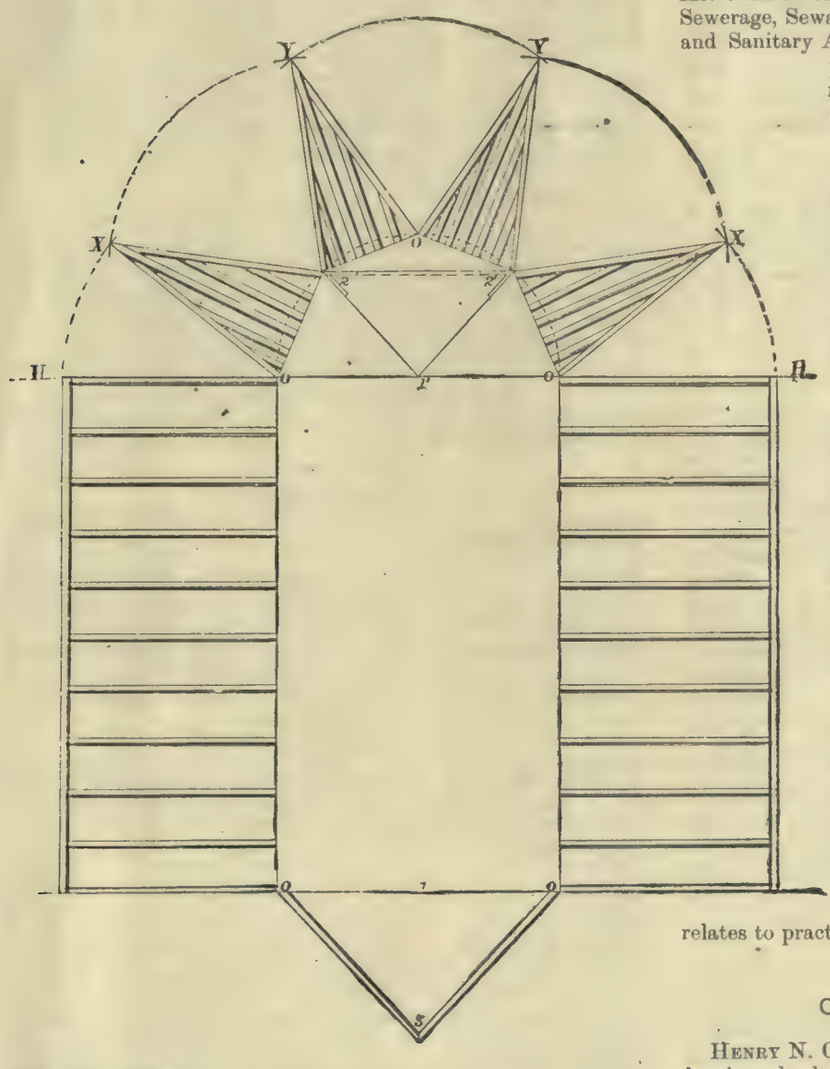
PERSPECTIVE AND PLANS OF A COUNTRY RESIDENCE (ERECTED AT HONOLULU, H. I.).

EDITOR CALIFORNIA ARCHITECT—*Dear Sir:*

As I have been frequently requested by some of the most able and competent master builders to give an easy rule for finding the cuts and covering of conical, hexagonal, and octagonal roofs, I offer the following, trusting it will be of service to them in laying out this kind of work.

The accompanying cut shows the timbers in position over ground plan. The method of obtaining this result is as follows: 0, 0, 0, 0, 0, 0, is the ground plan; 1, and 3, is the height of elevation. Make 1, 2, in ground plan, equal to the elevation, viz., 1, 3, after which connect 2, 2, in the ground plan, which will give the length of hip needed. Square out from O, H, right and left, indefinitely, then take the distance 2′, 2 in the compass and stand in O, describing curve, cutting line squared from H, then cut at X, as shown; move compass to 2′, and cut at X, and Y; move compass to O, and cut at Y, right and left; move compass to 2, and cut at Y, and X; move compass to O, and cut at X, and H. Thus obtaining the accurate length of all timbers, lay the jack rafters, or cripples, a suitable distance apart, and the problem is finished. To make a stand-up model, cut all around the outside, following the straight lines, viz., H, to O, to X, to 2′, to Y, to O, to Y, to 2, to X, to O, to H. Now weaken on all the base lines, fold from you, and the model will show all timbers in their correct position. Yours truly,

M. J. MARION.



ARCHITECTS and sculptors will be much interested in the statements recently published in some of our foreign exchanges, that the long-lost quarries of valuable ancient marbles have been rediscovered. Among colored marbles employed by the Romans in their palaces and monuments some authors quote the Numidian marbles. But this name is misleading, for several quarries containing the genuine *giallo antico*, also a rose-hued marble, and a brown *breccio*, are located outside of the geographical limits of Numidia. One of these is situated east of Numidia, near Simmittu, in the Medscherdan Valley, along the railroad between Algiers and Tunis. The other quarry is said to have been discovered by a Mr. Delmonte, dealer in Carrara marble, and is described as being situated along a line of hills near the village of Kleber. Mr. Delmonte offers to deliver the marble in Oran, ready for shipping, at a price of 450 francs —90 dollars per cubic meter. The marble of this quarry, originally of a pure white color, has assumed an ivory tint due to presence of oxides of iron. There is also a pink variety, capable of being highly polished. Other varieties are also found, notably a yellow marble, similar to the *giallo antico*, a dark red marble, resembling the *rosso antico;* another variety called *paonazzo*, on account of its resemblance to the colors of the feathers of a peacock. Some of the varieties of marble were used in the construction of the English church at Algiers. It is also rumored that a French geologist has discovered clues towards the finding in Upper Egypt of the Lucullan marble, a pure black variety, used in Roman architecture.—*Building.*

Book Notices.

"A PLEA for Sanitation in Factories and Workshops." By Wm. Paul Gerhard, Consulting engineer for Sanitary Works, 6 Astor Place, New York.

Author of the following works: "House Drainage and Sanitary Plumbing," Hints on the Drainage and Sewerage of Dwellings," "Diagram for Sewer Calculations," "Sanitary Questions," "Sanitary Drainage of Tenement Houses," "A Guide to Sanitary House Inspection," "Domestic Sanitary Appliances," etc. Mr. Gerhard offers professional advice on questions of Drainage, Sewerage, Sewage Disposal, Water Supply, Ventilation, Heating, and Sanitary Architecture. Plans and specifications also prepared for house drainage, and the sanitary arrangement of plumbing work. Correspondence solicited.

"BUILDERS' Work and the Building Trade." By Col. H. C. Seddon, R. E. Bound in cloth; price, $4.00. For sale by Jos. A. Hofman, 208 Montgomery Street, San Francisco, Cal.

This is an English work just published by the Rivingtons, of London, England, and makes a valuable addition to the two volumes, "Notes on Materials and Building Construction," published some time since by this firm.

This work has nearly 300 illustrations, showing nearly every style of brick and stone work, diagrams of constructive carpentry and joiner's work, tiling and slating, and a lot of other information pertaining to the building trades.

There is a very useful and practical chapter on bricklayers' work; also one on concrete and plastering; and some useful information is given on painting, coloring washes, and the tools used for cutting and rubbing for ornamental brick work. Very useful hints are also given for estimating the cost of all kinds of brick, stone, and concrete work. The methods of framing, in the chapter on carpenter's work, will be found very explanatory, as many illustrative diagrams have been given. The other trades appear to be thoroughly dealt with. There are several useful appendices, giving experiments upon concrete slabs, forms of specifications for concrete floors and roofs, and several valuable tables.

This work will undoubtedly take its place as a text-book of technical reference in all that relates to practical building operations.

Copp's Lists of Patented Mines.

HENRY N. COPP, the land and mining lawyer of Washington, has issued a book of 150 pages, which gives lists of about 10,000 mines patented by the United States up to January, 1886. These lists are arranged by States and Territories, and thereunder by counties and districts. It also gives instructions for the restoration of lost and obliterated corners of the public surveys.

This publication is an added evidence of Mr. Copp's industry, and will, without doubt, be in every mine-owner's library. In it we observe the names of many of our wealthly and enterprising citizens. Parties contemplating the purchase of a mine can now readily determine if it has been patented. The purchase of unpatented mines is a risky business, as lawsuits are frequently purchased at the same time. The book sells for fifty cents, and can be had through the news dealers and of the publisher.

Publications Received.

THE May number of *Art and Decoration* contains fifty-four illustrations among which are pictures in the National Academy, two studio interiors in perspective, designs for stained glass window, suggestions for panel in lobby of theater, suggestions for *rapoussé* work, designs for tapestry painting, and twenty illustrations by Raguenet, with many short, interesting, and instructive articles pertaining to interior and exterior ornament. Subscription price, $2.50 per year. Single copies, 25 cents. Published by Art and Decoration Company, 7 Warren Street, New York.

THE May number of the *Inland Architect and Builder* is unusually attractive and valuable. The leading articles are reminiscences of the late architect, H. H. Richardson, who ranked at the head of his profession in the U. S., written by P. B. Wight, and a practical illustrated essay on Brickwork, by George Beaumont. Reports of the Nebraska State Convention of Architects and of the Cleveland meeting of the National Engineers' Society are given, besides building news from over one hundred Western cities. Among the illustrations are the new Court House at Madison, Wis., the West Chicago Club House, a design by Architect Beman for a Grant memorial, and several well-designed residences by prominent architects. Architects and others interested in building will find the *Inland Architect and Builder* profitable reading. Published by The Inland Publishing Co., Chicago. Subscription price, $3 a year.

THE *American Architect and Building News* (Gelatine Edition). The following is the table of contents for the May number:—

CONTENTS.—Mural Painting—Wood Architecture of the Northern Hartz—The Erection of Colossal Statues—Concrete Floors—Pile Driving—Communications—Notes and Clippings—Trade Surveys.

ILLUSTRATIONS. — Rood-screen in St. Peter's, Louvain—House at Ottawa, Canada (Gelatine Print, issued only with Imperial and Gelatine Editions)—Wood Architecture of the Northern Hartz, Germany—Court House, Clarion County, Pa.—House at Garrison on Hudson, N. Y.—Ancient Light-house, Island of Pharos—Modern Light-house, Island of Pharos.

Subscription for the Gelatine Edition, $7.00. Published by Ticknor & Co., 211 Tremont Street, Boston, Mass.

THE June number of *Mind in Nature*, discusses the question of "Mind in Animals," by Lady Murray-Aynsley, followed by notes on "Intelligence of the Elephant and the Orang." Doctor Valin continues his quest for the "Spiritual Evidences of Man's Descent," this time in the "Demon of Science." A. N. Waterman asks, "Is Spiritualism Only a Nervous Disease?" and F. A. Becher contributes "A Few Notes upon Mental Phenomena and Mathematics." Professor Thwing tells, "How to Induce the Trance." John Wetherbee reviews "The Spirits of Darkness." H. M. Hugunin describes an "Electrical Cloud Birth." Wm. Q. Judge in his remarks on, "Matters Touching Theosophy," replies to the discussion on "The Occult World" in former numbers of "Mind in Nature."

There are also extracts from Rev. T. T. Munger on "Truth," from Doctor Pettegrew, on "Faith as an Element in the Cure of Disease." "More Metaphysical Twins," is a report of several cases where persons were seemingly united in some psychical manner, that caused one to suffer the same mental or physical pains that disturbed the other, even though they were hundreds of miles apart. All those interested in the problem of "Mind in Nature," will find this little magazine well worth ten cents. COSMIC PUBLISHING COMPANY, 171 Washington Street, Chicago.

DECIDEDLY unique and original is the little cycling scrap-book just issued by the Pope Manufacturing Co., of Boston, Mass. Upon the covers are fac-similes of the covers or front pages of thirty-seven of the leading American publications, and inside are between two and three hundred newspaper and magazine clippings and quotations from prominent personages pertaining to the hygienic, business, and pleasurable advantages of cycling. By an arrangement of tint and type, the selections have the appearance of genuine pasted scraps, which makes the book worth possessing as a curiosity, as well as for the really valuable information it contains. The book will be sent upon request free by mail upon receipt of stamp, to any one interested in cycling.

COMPLAINTS are often made by those using iron saw-tables that the table becomes charged with electricity to such an extent as to be disagreeable. The table is undoubtedly charged by the friction of the belt. To prevent the table from becoming charged run a small copper wire from the leg of the table to a water, gas, or steam pipe. Anything that will carry off the current as fast as produced will do the work effectually.

Master Plumbers' Association.

Howard Building, S. W. Cor. Stockton & O'Farrell Sts., S. F., Cal.

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The Building Interest of Woodland and Yolo County.

FOR THE SECOND QUARTER OF 1886.

EDITOR OF THE CALIFORNIA ARCHITECT: In comparison with the corresponding three months of 1885, the reader will readily see a decrease in the amount of capital invested this quarter, and as a ready conclusion infer that the building interest has taken a retrograde movement, and the following report is conclusive evidence. But when the true cause is considered, the effect is not serious nor depressing, but, to the contrary, is believed as an indication of prosperity.

The present outlook of the grain crop, the fruit of the orchard and vineyard, are, beyond a doubt, better and far more promising than ever before known in this county; therefore all are too much engaged in preparing for the coming harvest to look after building, which is considered of second importance, and the lull is only an index of better and more prosperous times in the near future; and with the coming fall it is anticipated that building in all its branches will be brisk, and there will be plenty of work.

CITY OF WOODLAND.

15	frames, value	$40,005
7	improvements, value	4,550
22	Total,	$44,555

YOLO COUNTY.

22	frames, value	$35,150
4	improvements, value	1,600
26	Total,	$36,750

Total for city and county, 48 buildings; value, $81,305. Number for corresponding months of 1885, 45 buildings; value, $120,600, presenting a decrease of $39,295. Accept our thanks for past favors and courtesies. Respectfully yours,

Woodland, June 4, 1886. GILBERT & SON.

The Building Interest.

SOME idea of the relative spread of the rapidly growing cities in the United States may be gathered from the following statistics of buildings erected during 1885:—

Philadelphia	5,937
St. Paul	3,451
Minneapolis	3,370
New York	3,368
Chicago	3,133

There were 7, 900 building permits issued in Philadelphia during the year. In the above computation, however, the only buildings included are 5,627 dwelling houses, and 310 other separate and substantial buildings for factories, stores, etc. Smaller structures, or additions to buildings already erected, are not included. It will be seen that Philadelphia is 2,500 buildings ahead of its foremost competitor. Twenty-five hundred buildings of this class furnish enough accommodation for a new city of 10,000 inhabitants.—*Iron Trade Review.*

Carpenters,

AND others interested in building: We call your attention to the advertisement of *Ives' Patent Sash, Lock, and Door Bolt*, on page XI. Mr. Ives offers to forward to any carpenter one *Ives' Patent Sash Lock* for ten cents in stamps to cover expense of mailing. These locks are undoubtedly the best we have seen, and we think it would be an advantage to all interested in building to send for one of these samples before selecting any other style, and see the advantages obtained by using the *Ives'* patent.

San Francisco Chapter of Architects.

OWING to death and sickness in the family of the Secretary, the usual postal notices were not mailed in proper season, and but few members received them until after the evening of the meeting. Consequently, there were so few in attendance that all business, and the discussion of the subject appointed for the evening, was deferred until the July meeting, reports in the daily papers to the contrary notwithstanding.

The San Rafael Unpleasantness.

WE have received several letters in reference to the school building at San Rafael, in which the position is assumed that the Chapter of Architects should take the matter in hand, as the name of one of its officers is, to some extent, mixed up in the affair, which, as far as the purchase of the school-house lot is concerned, has led to the resignation of the Board of Trustees and their arrest for bribery, etc., terminating in the suicide of one of the parties to the transaction—a man who, until the exposures in the case became a matter of public concern and notoriety, had maintained a good reputation for integrity and good citizenship.

As far as the architect in question is concerned, the reflections thrown out are wholly speculative and inferential, beyond the fact that the new Board have found, or claim to have found, the necessity for, and have advertised to "receive sealed bids for doing certain work in the new school-house on Fourth Street, in the town of San Rafael," etc., with all of which the Chapter certainly can have nothing to do, nor is it a part of the Chapter work to interfere in matters of the kind, unless the same is brought before it in some tangible form by the parties aggrieved.

Our Illustrations.

THE two sketches representing views in Chinatown are from life, and correct in every part, except that there is but one Chinaman represented for every twenty to be seen in the same locality from early morn till midnight. The front elevation, perspective, and plans of cottage are self-explanatory.

The perspective and plans for a residence are those of a building planned by us, and erected at Honolulu, H. I.

The remaining illustrations carry with them sufficient explanations.

Market Report.

Pine, Rough	per M feet,	$15 00
" " No. 2	" "	12 00
" " " 2 in lengths	" "	13 00
" " 40 to 50 feet lengths	" "	17 00
" " 50 " 60 " "	" "	18 00
" " Selected	" "	20 00
" " Clear	" "	25 00
" " Fire Wood	" "	8 00
T. & G. Flooring, 1 x 6	" "	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	" "	30 00
" " No. 2	" "	22 00
Sepping	" "	35 00
" No. 2	" "	27 50
Furring, 1 x 2	per lineal foot,	00¾
Redwood, Rough	per M feet,	18 00
" " No. 2	" "	14 00
" Surfaced	" "	30 00
" T. & G. 6 in. 12 ft. and over	" "	28 00
" " " 7 to 11 feet	" "	25 00
" " " under 7 feet	" "	20 00
" Rustic	" "	30 00
" " No. 2	" "	26 00
" T. & G. Beaded, 12 ft. and over	" "	30 00
" " " 7 to 11 ft	" "	25 00
" " " under 7 ft	" "	20 00
" Siding, ½ inch	" "	22 50
Pickets, Fancy	per M,	25 00
" Rough Pointed	"	16 00
" " Square	"	14 00
Battens, ½x3	per lineal foot,	00¾
Shingles	per M,	2 00
Laths, 1¼	"	3 25
" 1½	"	3 75
NAILS—Rates were recently reduced to:—		
200 keg lots		2 70
100 keg lots		2 75
Smaller quantities		2 80
PAINTS AND OILS:—		
Pioneer White Lead (local factory), 5 ton lots	6¼c @	6½
Cal. Linseed Oil, raw (single bbl lots)		45½
" " " boiled " " "		47½
Turpentine, per gallon		58
BRICK—California Building Description, soft, per 1,000		5 50
" " " red, " "		6 50
" " " hard," "		7 50

Building Intelligence.

Where owners' names are left blank, it is so done in most instances by special request.

B

Baker, near McAllister. One-story frame.
O.—John Boyd.
A.—Eisen & Pierce.
C.—D. Perry.
$2,500.

Baker, bet. Washington and Jackson. Four two-story frames.
O. and B.—W. F. Lewis.
Day work.
$14,500.

Baker, bet. Washington and Jackson. One story frame.
O. and B.—W. F. Lewis.
Day work.
$3,000.

Baker, nr. Golden Gate Avenue. One-story frame.
O.—J. T. Fitzhenry.
C.—C. Carberry.
$2,000.

Bryant, bet. Twenty-fourth and Twenty-fifth. One-story frame.
O.—J. Belile.
A.—J. Gash.
Day work.
$2,000.

Broadway, cor. Laguna. Two and one-half story frame.
O.—Peter Hopkins.
A.—Clinton Day.
C.—R. T. Gulbert.
$12,500.

Birch Avenue, nr. Larkin. Three-story frame.
O.—F. Fanstman.
A.—P. R. Schmidt.
C.—A. Norton.
$3,000.

Brannan, bet. Sixth and Seventh. Alterations.
O.—E. L. Goldstein.
A.—P. R. Schmidt.
C.—H. Keenan.
$1,360.

Bryant, cor. Second. Three-story brick addition to wine cellar.
O.—Lachman & Jacobi.
A.—P. R. Schmidt.
C.—Mahoney Bros.
$9,250.

C

Clay, bet. Devisadero and Scott. Two two-story frames.
O.—D. S. Culp.
A.—Copeland & Banks.
C.—O. E. White.
$10,000.

California, cor. Baker. One and one-half story frame.
O.—C. Denervand.
A.—W. F. Smith.
C. Gray & Stover.
$3,000.

E

Eddy, bet. Octavia and Laguna. Two-story frame.
O.—L. Kaplan.
A.—P. R. Schmidt.
C.—Commary & Beardsley.
$5,500.

Ellis, bet. Van Ness and Franklin. Alterations.
O.—I. Levy.
A.—E. John.
C.—B. Dryer.
$1,000.

Eighteenth, nr. Castro. Two-story frame.
O. and B.—J. M. Comerford.
Day work.
$2,000.

Eddy, cor. Laguna. Six two-story frames.
O.—
A.—W. F. Smith.
C.—J. Robinson.
$30,000.

F

Fulton, nr. Larkin. Three-story frame flats.
O.—F. Fanstman.
A.—P. R. Schmidt.
C.—A. Norton.
$4,500.

Fell, bet. Laguna and Buchanan. Two-story frame.
O.—R. J. Stinsen.
A.—T. J. Welch.
C.—Bateman Bros.
$5,500.

Fourteenth, nr. Howard. Two-story frame.
O. and B.—L. Cuner.
A.—W. Mooser.
Day work.
$4,000.

Fifth, bet. Mission and Howard. Three-story frame.
O. and B.—A. Zehn.
Day work.
$5,000.

G

Guerrero, nr. Twenty-first. Additions.
O.—J. Davis.
C.—G. W. Lang.
$2,200.

Golden Gate Avenue, bet. Pierce and Scott. Two-story frame.
O.—J. P. Lartigan.
A.—T. J. Welch.
C.—H. Monrad.
$8,000.

Golden Gate Avenue, southeast cor. Larken. Additions.
O.—Michael Skelly.
A.—H. D. Mitchell.
C.—Owens Bros.
$12,500.

Green, bet. Powell and Mason. Two-story frame.
O.— V. Menisini.
A.—G. V. Coppelletti.
C.—J. J. Dunn.
$4,000

Greenwich, bet. Kearny and Dupont. Two-story frame.
O. and B.—Thos. Merry.
Day work.
$4,500.

Gough, cor. Grove. Three-story frame.
O.—R. E. White.
A.—McDougall & Son.
C.—H. Townsend.
$9,000.

Golden Gate Avenue, cor. Lyon. One-story frame.
O. and B.—J. McPherson.
Day week.
$2,000.

Grove, bet. Octavia and Laguna. One-story frame.
O.—M. Kelly.
Day work.
$600.

H

Howard, cor. Tenth. Improvement for school-house.
O.—P. Scanlan.
A.—T. J. Welch.
C.—John Blake.
$6,000.

Haight, bet. Webster and Fillmore. Two-story frame.
O.—T. Brown.
A.—T. J. Welch.
C.—Jas. Haven.
$3,600.

Hayes, southeast cor. Laguna. Two three-story frames and brick basement.
O.—L. M. Fabry.
A.—Miller & Armitage.
C.—R. Mitchell, brick and iron work.
$5,315.
Balance of contract not yet let.

Hayes, bet. Gough and Octavia. Two-story frame.
O.—H. Tobelmann.
A.—H. D. Mitchell.
C. Chase & Taggart.
$4,000.

Hyde, cor. Sutter. Two and one-half story frame.
O.—Dr. J. Rosenstern.
A.—Pissis & Moore.
C.—A. Jackson.
$13,500.

Howard, bet. Fourteenth and Fifteenth. Two-story frame.
O.—Wm. T. Dowling.
A.—M. J. Welch.
C.—R. Sinnott.
$2,600.

Harrison, bet. Twenty-fourth and Twenty-fifth. One-story frame.
O.—T. O'Brien.
C.—Jos. Sullivan.
$1,400.

Hartford, nr. Nineteenth. One-story frame.
O.—A. F. Thing.
A.—G. F. Bordwall.
C.—J. Bruce.
$2,000.

Haight, bet. Webster and Fillmore. Two-story frame.
O.—R. Sutherland.
C.—H. Lukes.
$4,200.

J

Jackson, cor. Franklin. Two-story frame.
O.—W. H. Martin.
A.—Curlett & Cuthbertson.
C.—D. Perry.
$23,650.

Jones, bet. Lombard and Chestnut. Two-story frame.
O.—S. Castle.
A.—Miller & Armitage.
C.—F. W. Kern.
$3,750.

L

Liberty, nr. Guerrero. Two-story frame.
O.—Jos. Hutchensin.
A.—W. F. Smith.
C.—R. O. Chandler.
$3,000.

Linden Avenue, bet. Octavia and Laguna. Additions.
O.—
C.—A. Allspaugh.
$700.

M

Mission, north side, bet Fifth and Sixth. Alterations.
O.—Sol. Tesmore.
A.—B. E. Henriksen.
C.—John Apel.
$5,750.

McAllister, nr. Steiner. Two-story frame, two flats.
O.—John Dunhand.
A.—E. John.
C.—J. F. Long.
$6,000.

Market, bet. Tenth and Eleventh. Three-story frame store and two flats.
O.—Meade estate.
A.—T. J. Welch.
C.—Anderson Bros.
$12,000.

Madison Avenue, off Harrison, bet. Fifth and Sixth. One-story frame.
O.—Thos. McCreagh.
A.—Pissis & Moore.
C.—G. Tressler.
$2,500.

Market, bet. Church and Eighteenth Additions.
O.—G. Smith.
A.—Miller & Armitage.
C.—R. Doyle & Son.
$2,200.

Mission, bet. Third and Fourth. Four-story and basement brick.
O.—Hermann Meese.
A.—Miller & Armitage.
C.—Brick work, C. Morrell.
$10,000.
Balance of contract not yet let.

Market, bet. Sanchez and Noe. Two-story frame.
O.—John Johnson.
A.—Chas. I. Havens.
C.—Jas. Geary.
$3,000.

N

Noe, cor Ford. Two-story frame.
O.—C. Gallagher.
Day work.
$3,000.

O

Olive Avenue, bet. Polk and Van Ness. Two two-story frames.
O.—J. W. Bridgeman.
A.—H. T. Bestor.
C.—Thos. Rendell.
$5,350.

Oak, cor. Devisadero. Three one-story frame stores.
O.—
C.—J. Sheppard.
$2,000.

Oak, bet. Pierce and Scott. One-story frame.
O.—A. Wolf.
C.—B. Dryer.
$2,500.

P

Pacific, bet. Mason and Taylor. Additions and alterations.
O.—S. McAuliff.
A.—Miller & Armitage.
C.—B. Kroeger.
$1,500.

Post, nr. Pierce. Two-story frame.
O. and B.—J. C. Wier.
Day work.
$6,500.

Pierce, bet. Post and Sutter. Two story frame.
O.—Mrs. Durand.
A.—T. J. Welch.
C.—Samuel T. Green.
$3,500.

Page, cor. Broderick. Four two-story frames.
O. and B.—John. Hinkle.
Day work.
$16 000.

Q

Quinn, bet. Valencia and Guerrero. Two-story frame.
O.—
A.—T. J. Welch.
C.—J. W. Smith.
$2,500.

S

Sutter, bet. Pierce and Scott. Two-story frame.
O.—Mrs. Bramer.
C. A. Walker.
$3,200.

Sanchez, bet. Seventeenth and Eighteenth. Two-story frame.
O.—Jos. Clark.
A. J. Marquis.
C.—Chalwin & Wilson.
$3,000.

Sanchez, nr. Seventeenth. One-story frame.
O.—H. Petzola.
C.—B. Pfaarer.
$1,850.

Seventeenth, nr. Sanchez. Two story frame.
O.—P. Hallihan.
A.—J. J. Clark.
C.—J. B. Gunyan.
$3,500.

San Jose Avenue, nr. Twenty-seventh. Two and one-half story frame.
O. and B.—J. M. Comerford.
Day work.
$4,000.

Stevenson, nr. Herriman. Two two-story frames.
O.—Mrs. H. A. O'Brien.
A.—T. J. Welch.
C.—H. A. Conrad.
$7,000.

Sacramento, bet. Jones and Leavenworth. Two-story frame.
O. and B. H. Gallagher.
Day work.
$2,250.

Steiner, bet. Pine and California. Two-story frame.
O.—Chas. McLane.
A.—C. J. I. Devlin.
C. Lufkin & Kerrigan.
$2,764.

Sacramento, bet. Jones and Leavenworth. Two-story frame.
O.—Wm. Hogan.
C.—H. Gallagher.
$2,000.

Sutter, cor. Laguna. Additions.
O.—W. Butt.
Day work.
$1,500.

T

Twenty-second, nr. Valencia. Two three-story frames.
O.—Dr. T. D. Whitney.
A.—B. E. Henriksen.
C.—Jos. Steele.
$11,300.

Twenty-third, bet. Valencia and Guerrero. One-story frame.
O.—
C.—H. Norris.
$1,500.

Twenty-third, bet. Valencia and Mission. Two-story frame.
O.—
C.—J. H. Thom. Wohrden.
$3,000.

Turk, nr. Pierce. Two-story frame.
O.—Mrs. J. Webster.
Day work.
$3,500.

U

Union, bet. Octavia and Laguna. Two-story frame.
O.—G. and L. Ratto.
A.—W. Mooser.
C.—G. B. Caraglia.
$3,500.

V

Van Ness, cor. Clay. Repairs.
O.—Mrs. Greenewald.
A.—J. E. Wolfe.
Day work.
$1,200.

Valencia, nr. Twenty-second. Two one story frames.
O.—P. Dean.
A.—J. E. Wolfe.
C.—Alexander Flood.
$2,000.

Valencia, junction of Mission. Three-story frame.
O.—F. S. Wensinger.
C.—J. H. McInnis.
$11,000.

Valencia, cor. Twenty-fifth. Two-story frame.
O.—A. Merry, M. D.
C.—A. Nelsen.
$2,500.

W

Washington, nr. Fillmore. Two-story frame.
O.—A. M. Starr.
A.—S. & J. C. Newson.
C.—John Rehman.
$5,000.

MISCELLANEOUS.

Grass Valley—Two-story cottage. O., J. F. Kidder; A., J. E. Wolfe; day work; $8,000.
Sacramento—Twelfth, bet. J and K. Three-story frame, brick basement, and Mansard-roof. O., Bishop Manogue; A., B. J. Clinch; C., A. McElroy; $16,649.
Piedmont—Two-story frame. O., Mrs. F. C. Myers; A., Matthews & Son; C., J. T. Merrill; $6,000.
Oroville—Two-story frame. O., N. Goldstein; A., P. R. Schmidt; day work; $6,000.
San Jose—East side First, bet. San Fernando and San Antonio Streets. O., E. Auzerais; A., Theodore Lenzen; C., Thos. Livingston; $1,400.
Cady Station, Sonoma Co.—Two-story stone winery. O., — Goldstein; C., S. F. Building Co.; $12,000.
Dixon—One-story frame. O., J. M. Gregory; A., J. E. Wolfe; day work; $2,000.

OAKLAND.

Fifteenth, No. 1507—Additions; o, M. Hanley; a, W. Kirk; c, J. H. Jones; $1,250.
Eighteenth, cor. Eighth Ave—2-story fr; o, Geo. Watson; a, J. J. & T. D. Newson; c, Fess & Gale; $3,000.
Jackson, cor Thirteenth—Additions; o, L Upham; a, Matthews & Son; c, W. A. Knowles; $4,500.

BERKELEY.

1-story fr; o, M. Mereier; a, W. Mooser; day work; $2,000.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

The following are a few of the owners who have adopted the HILL BLIND in preference to any other:

U. S. Government, four sets officers' quarters, Presidio Res., S. F.; H. F. Bruns, cor. Geary and Taylor, S. F.; J. C. Weir, Post, near Scott, S. F.; John MacKenzie, cor. Grove and Broderick, S. F.; L. H. Sweeney, San Rafael; R. B. Gray, cor. Pacific and Van Ness, S. F.; Raymond Hotel, 1,600 windows, Pasadena, Cal.

ENGLISH AND AMERICAN VENETIAN BLINDS

IMPROVED.

The only Perfect Venetian Blind in the market. For samples, prices and information, address,

EDWARD B. HINDES, Agent, 330 Pine St., Room 55.

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F. P. LATSON. J. H. PERINE.

FRANK P. LATSON & CO.,

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Lumber Dealers, FOURTH AND CHANNEL STREETS, SAN FRANCISCO

Yard Connects direct with C. P. & S. P. R. R. Also with the Shipping.

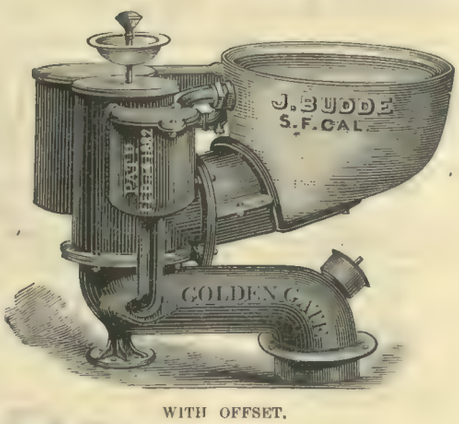
Down Town Office, No. 5 Post St., near Montgomery.

JOSEPH BUDDE'S

PATENT WATER CLOSETS

WITH TRAP.

The Golden Gate Plug Closet.



WITH OFFSET.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the floo d chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

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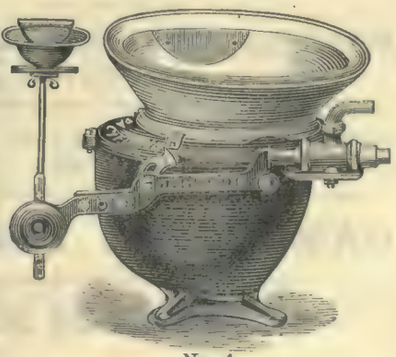

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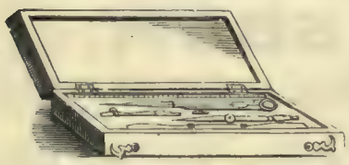

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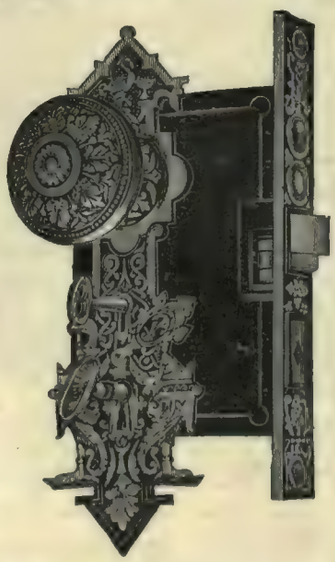

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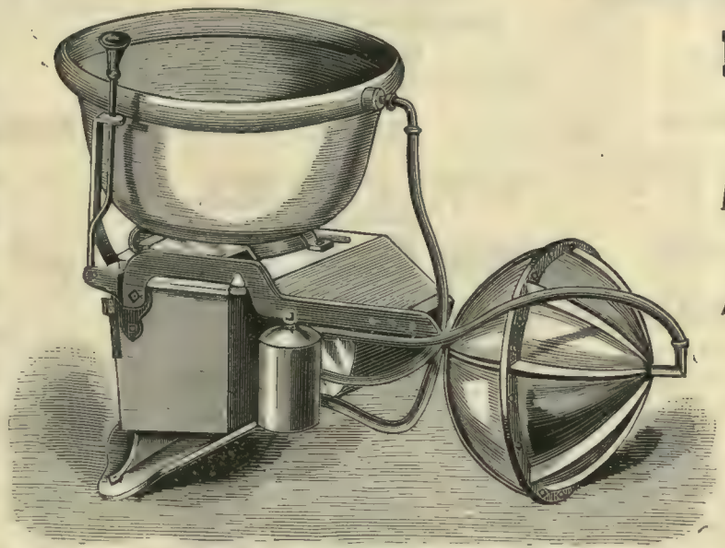

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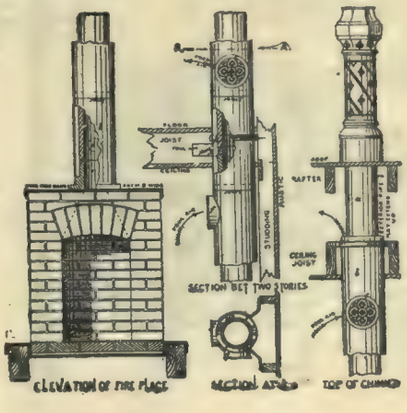

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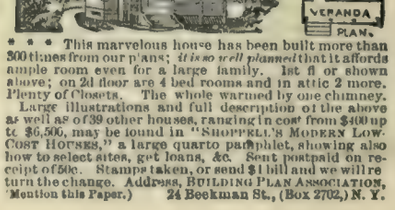

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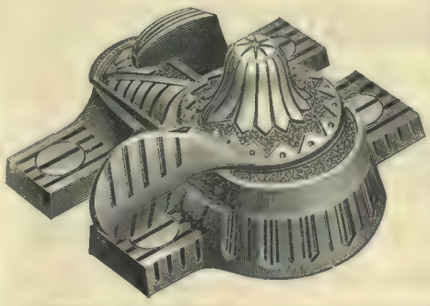

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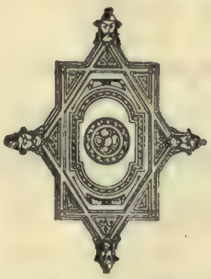

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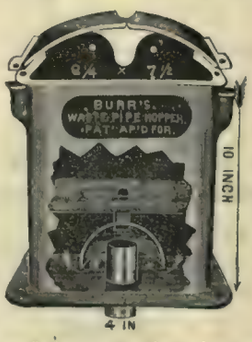

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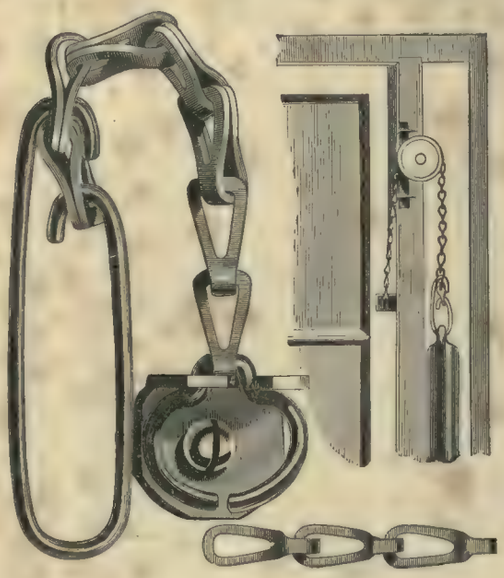

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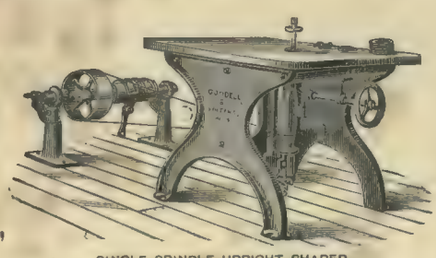

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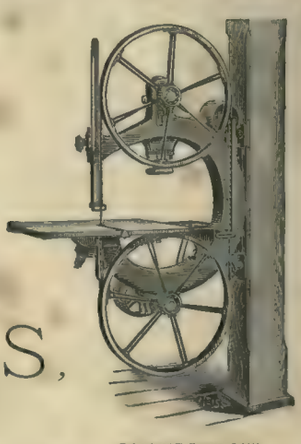

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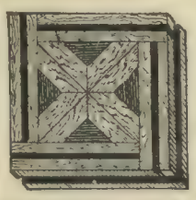
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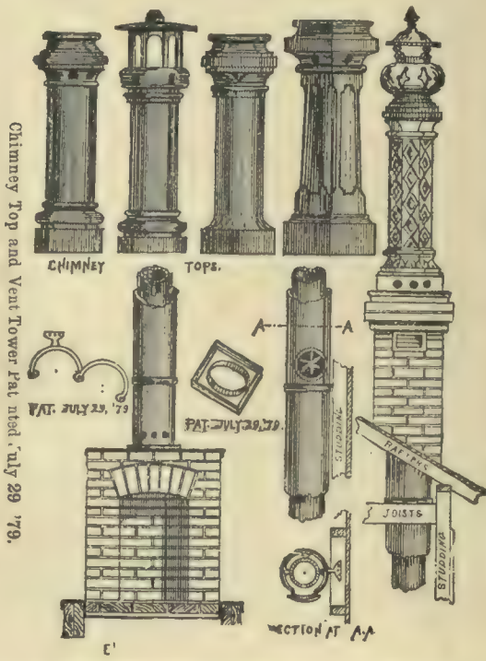

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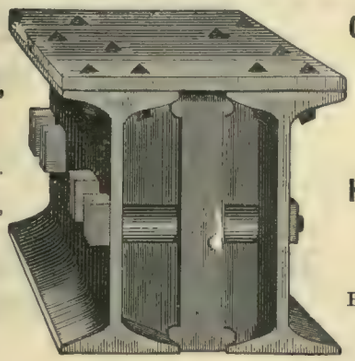

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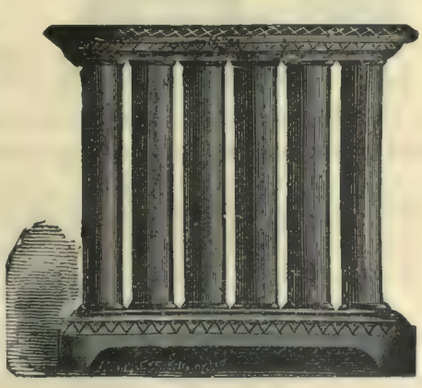

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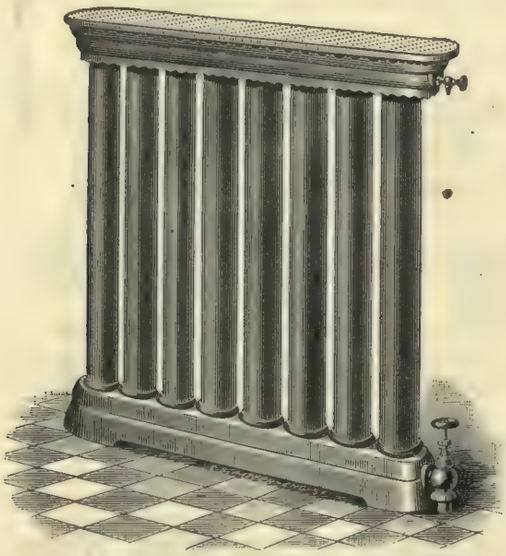

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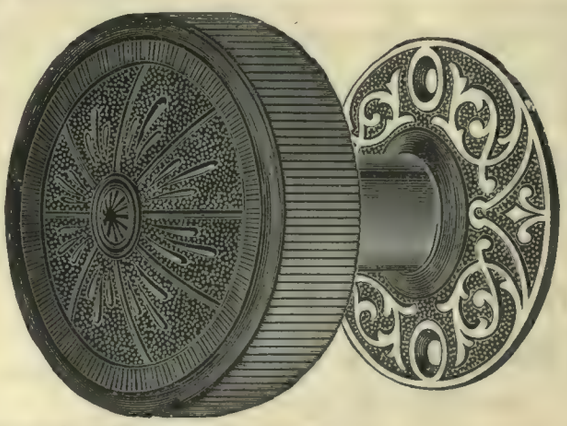

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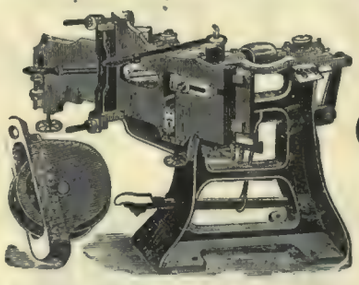

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You postively cannot afford to do without the NORRIS PULLEY AND MORTISER. It is the only machine made that will mortise for every kind of Pulley. No difficulty in starting machine; no scraping off edges of bits; nothing to get out of repair. It is a heavy, solid, substantial machine, built for work, and we guarantee it to do five times the work of any other Pulley Machine. It does not require any skilled labor to run it, no belt tighteners to wear out the belts. In fact, it is pronounced by all, and is POSITIVELY the ONLY machine for Mortising Pulleys. Our Pulleys are the strongest and best made in the country. We make 600 different qualities, and if any other style of pulley was given to you it would not pay to use it. We refer you to the leading Sash, Door, and Blind Manufacturers of the entire country. Information and Samples sent on application. Very respectfully yours,

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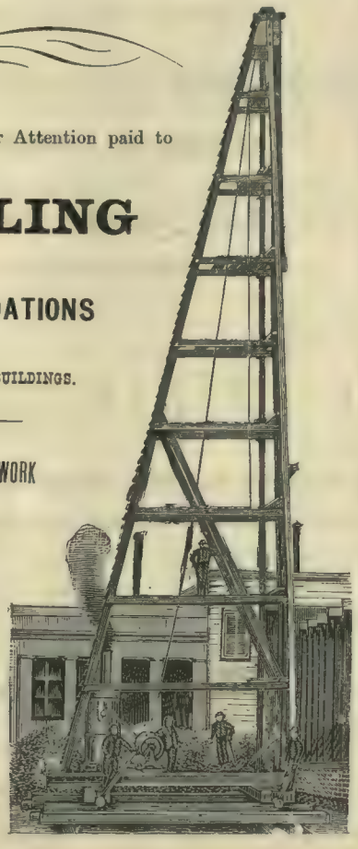

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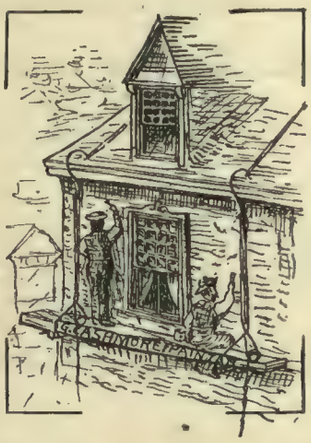

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The California Architect and Building News.

Volume VII. Entered at Post-office, San Francisco, as Second-class Mail Matter. Established January, 1879. Number 7.

THE

California Architect & Building News.

A MONTHLY JOURNAL,

Devoted to Architecture, Decorating, and Furnishing.

PRICE, $2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., JULY 10, 1886.

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Building Intelligence Facts.

ALTHOUGH there has been a great deal of complaining about dull times during the past month, the number and cost of buildings reported as commencements since our last issue, show that the work still goes bravely on, and that many owners of property are by no means inclined to allow their real estate to lie unimproved. This would not be the case were the indications not encouraging and promising. Those who buy or own building lots are, as a general thing, competent to judge correctly the advisability of planting more of their means in building improvements. And, further, such persons are generally cautious and calculating, and require good and sufficient evidence to induce them to invest, which they are not apt to do unless there exists at least fair assurances of satisfactory returns upon the money invested. Hence it may reasonably be inferred that the outlook is sound and prospectively good.

There is a permanent, healthy tone and under-current which stimulate many owners to active operations in building improvements, while others, who hold back, are strongly inclined to break away from the influences that restrain them, which state of facts assures of a continuation of activities. For those who "want to improve," and do not from trivial cause, will not long remain inactive, while others go ahead and reap the results of their greater confidence.

As will also be noticed by the report, many of the improvements are of the better class, and in the list of "flats," and houses for renting, the cost indicates good buildings generally. The labor agitation has had a somewhat retarding influence, as some owners are disposed to resent by withholding expenditures, when seeming arbitrary demands are imposed. But in the building trades in San Francisco, there have been no strikes among operatives calculated to unduly advance prices. The tendencies have rather been, among contractors, to under-value and underbid on work offered; so much so, that during the season the *pro rata* settlements have been numerous.

REPORT FOR JUNE.

79 frame buildings	cost,	$512,526
2 brick "	"	29,000
18 alterations and improvements	"	111,195
99, total of buildings	total "	$652,721

FOR SAME PERIOD IN 1885.

96 engagements at a total value of	$457,721
Showing a gain for 1886 of	195,311
And a gain on preceding month of 1886 of	251,182

Negotiations not Concluded.

THE announcement in its last issue, that the entire interests of this Journal could be purchased, has resulted in large numbers of inquiries and offers, but none as yet conclusive. The opinion that it is

"A SPLENDID PROPERTY,"

Has been freely expressed, but the query of personal qualification to edit and manage such a Journal seems to intervene. There has not been to us a single doubt expressed that, in right hands, it is the

BEST CLASS JOURNAL PLANT WEST OF CHICAGO;

Still, the "peculiar personal qualifications and fitness" called for seem to be a barrier, and a thousand suggestions have been volunteered as to the class of mind, intelligence and executive abilities required in its conduct, all of which we know from experience to be more or less imaginary and hypothetical; for when the present management began its publication, in 1879, it was without the slightest experience in connection with the publication business, and equally as little as editor and manager; besides which, at the time of its commencement, the building, financial and all other interests of the State, were encompassed and engulfed by the terrible state of depression brought about by sand-lotism, and the fearful gang of demagogues and panderers, to the worst and most wicked passions and fancies of the deluded and thoughtless crowds of unreasonable men, who were incited to clamor and hope for *Reform!* with the ultimatum of murder, arson and the annihilation of all "bloated bond holders," which included a large proportion of the successful and well-to-do citizens of this city. This state of things brought about a condition of approximate or absolute poverty and distress among mechanics and the working classes, and great financial contraction in all directions. Yet with all these

MOST TERRIBLE CONDITIONS,

Which passed away only by slow degrees as time rolled on, *this Journal worked and paid its way*, increasing in influence and public favor, until it has reached its present high position among the class journals of the country.

If, therefore, from a beginning unaccompanied by a single encouragement, other than a personal determination and purpose to brave the issue, so much has been accomplished, what we ask may not be anticipated for its future, with its foundations well and firmly laid and cemented, its superstructures all well proportioned, and its surroundings all of the most favorable character.

WHO SHOULD OWN AND CONTROL IT?

Many personal propositions have been made to purchase, by men seemingly well, if not in every respect qualified for its management, but who have not the financial resources.

The more general sentiment prevailing is, that it should be controlled by the architectural profession as a whole, or by *a syndicate of prominent architects*, to make it absolutely THE REPRESENTATIVE ARCHITECTURAL JOURNAL *of California and the entire Pacific States and Territories.*

Under such management and control, the splendid reputation it has already gained by the unaided efforts of a single individual, would be increased ten-fold.

At present there exist jealousies and prejudices, which would disappear, with the Journal under the general, interested management of a number of reputable architects.

If, as some now suppose and say, the present and past successes of the Journel are the results of the influence of one architect and his office, is it not then fair to presume that if twenty or more architects should concentrate their personal and office influence in its favor, its

FUTURE WOULD BE GRAND BEYOND COMPARISON.

Present management urged to continue. A large number of personal friends and patrons, among them many of our most prominent professional brethren, leading contractors, advertising patrons, and owners of real estate, have urged us to continue our publication labors, adding, "The Journal must be continued;" "It is a necessity on this coast;" "Such a Journal we must

have," etc., to all of which we have given the one reply stated in our first announcement, that we want and must have relief from the excessive cares, labors and responsibilities imposed by the triple duties of editing and managing the Journal, and as practicing architect,—a complication of more than any one individual can master successfully, without compromise of all personal comforts, and undue strain upon the mental and physical strength and energies.

Many well-informed parties have said to us during the past month, "We know of no one in San Francisco qualified to assume its charge." This may be true as far as individual knowledge is concerned, but it is not so as a general fact. There are, beyond question, in this city,

HUNDREDS OF COMPETENT MEN

Who, if not familiar with all the details of monthly publications, are sufficiently qualified to master the situation within sixty days, during which time the assistance that will be given by the present management, will perfect them in the entire work.

If it passes to parties who are not practical architects, it will gain instead of

LOSING ARCHITECTURAL FAVOR,

As such a change will secure patronage in directions at present inimical to its success; and influences now opposed to it among mechanics will change to support, and so give it additional strength and prosperity.

The many offers thus far received are held contingent upon those that may follow. As we are not in haste to make the change, we shall deliberate thoughtfully upon each proposition submitted, hoping that when a change is made, it will be such as to place the Journal in right hands, and thus make its future an assured success for all time.

Appropriate Souvenir.

MR. JAMES E. WOLFE—*Dear Sir:* In laying the corner-stone for the new Methodist Episcopal Church South, of Woodland, on the 10th inst., we took the liberty to present to the officers of the church the last number of the California Architect, with your regards, which was accepted with thanks, and the volume placed in the casket with many other valuable articles, and the casket was sealed and deposited in the corner-stone of the edifice, there to remain until some future generation may, perchance, open it and again unvail to the world that *May number of 1886*, from its long and peaceful rest, and those columns you have so earnestly and ably furnished will be perused by many an ardent observer, who will carefully scan the record of the past and mark the infinite diversity of human aims in this short-lived struggle of dependent humanity. Let us work and work well, while the day lasts, and be ready when the great Architect of the universe has need for us, and hope that our bodies may rest as secure and peaceful as the volume in the corner-stone, while our spirits and good influence will ever on.

Respectfully yours,

Gilbert & Son.

Woodland, June 14, 1886.

Press Excursion.

THE annual excursion of the Press Association will take place this month. The members, in a special train over the C. P. R. R., will leave this city on the 19th, and will visit Reno, Truckee, Lake Tahoe, Carson, Virginia City, and other points of interest. As press of business will prevent a personal inspection of the country in regard to building news, we have secured the services (kindly volunteered) of a brother editor, and will report in this Journal the state of building activities as they exist over the line traversed by the excursionists.

All law-abiding citizens regret the late terrible scenes of riot and bloodshed in Chicago, caused by the misguided anarchists, and every true American citizen, whether native or adopted, is ready to advise that they be stamped out, and to assist, if necessary, in doing it. But that riot has been of value to the trade organizations of the country in showing the public the great difference between the anarchists and organized labor, officered by men who are outspoken upholders of law and order, and who seek to hold in check the vast heterogeneous mass comprising their assemblies. They counsel peace, moderation, arbitration, and when very serious grievances appear they are ready to say to employers, "Come, let us reason together."

A bound volume of this Journal, for either of the years 1880, 1881, or 1882, will be sent free to all new subscribers for balance of this year and 1887.

Twenty-first Industrial Exhibition of the Mechanics' Institute.

THE annual exhibition of the Mechanics' Institute will be opened in this city on Monday, August 16. Its general character will be similar to that of its predecessors. The Directors have separated the exhibits into two classes, viz., those that are entered for exhibition, and those for competition. If the latter, they must be in position, and receipted for, on or before August 26. If not entered by that time, under no circumstances will such articles be allowed in competition, except with the written consent of all the contesting exhibitors, and the sanction of the Board of Trustees.

The following extract from the Rules and Regulations will be of benefit to those desiring to enter articles for either exhibition or competition:—

The award of a gold medal for best general display will debar any article in the same from competing for any other premium.

Space applied for and not occupied by August 21, may be assigned to other exhibitors.

No articles will be allowed in the Exhibition of an explosive, inflammable, dangerous, or offensive character.

No nostrums allowed in the building.

Articles must remain on exhibition until the close of the Fair.

All exhibitors will be required to keep the space under their control clean, and in good order. All coverings over goods to be removed before 11 A. M.

The greatest care and vigilance will be exercised by the managers, and the most effectual means taken, through the agency of the police and otherwise, to effectually guard and protect the property on exhibition; but under no circumstances will the Mechanics' Institute, or the managers of the Fair, be responsible for any loss or injury to articles placed on exhibition. *The owner must take all risks.*

The list of articles in the premium list is divided into forty-seven classes. The prizes consist of gold, silver, and bronze medals, and diplomas. Coin prizes will be given in the various classes as follows:—

Horticulture and Farm Products. In the former class the first, second, third, and fourth prizes are, respectively, $75.00, $60.00, $40.00, and $25.00. In addition, special prizes will be awarded to best display of flowers from private gardens. Premiums in this class will be a medal and coin, the latter being in amount, $15.00, $10.00, and $5.00, according to merit.

The largest premium to be given is in Class 47, Farm Products, viz.: For the best, most extensive, and varied exhibit of farm products (exclusive of live stock) by any county in the State, Gold Medal and $250; second best display, Grand Silver Medal and $150; third best display, Silver Medal and $100; fourth best display, Bronze Medal and $75.00.

All articles entered under the headings, Fruit, Dried Fruits, Nuts, Canned and Preserved Fruits, Vegetables, Dairy Products, Honey, Meats, etc., Wools and Cottons, will be subject to competition for medals or diplomas, and a monetary prize, ranging in value from $75.00 to $5.00.

The Directors have been very earnest in their endeavors to include in the different classes all articles liable to be placed on exhibition, but should anything be entered not included in the list, they have reserved the right to declare the exhibitor entitled to a special prize.

We sincerely hope that the Directors will take measures to illustrate to their patrons the *practical* workings of technical schools. This can be readily done, and perhaps be the means of inducing some of our moneyed men to encourage the establishment of such schools in many different portions of the State.

As an inducement to increase their membership, the Directors wisely adopted a rule by which each and every one belonging to the Institute can purchase a season ticket to the Fair at one-half the usual rates.

Risk of Contractors.

ONE of the most serious risks which building contractors incur and yet one which many of them habitually overlook till a costly damage suit opens their eyes, is the civil responsibility of an employer for injuries suffered by his employes while in his service. A recent suit in Paris, reported in *La Semaine des Constructeurs*, is instructive as showing the tendency of French courts to hold contractors to increased responsibility for their workmen. A mason employed in the erection of a building in Paris was struck on the head and instantly killed by a large piece of iron, which was accidentally dislodged from an upper floor directly over where the mason was at work. His widow sued the contractor for twelve thousand francs dam-

ages. It was held to be a contractor's duty diligently to care for the safety of his men by all reasonable means, to warn them of the dangers attending their employment in various locations, and to furnish adequate protection where possible. In this case, the contractor, failing to do this or even to warn the man of his danger, was responsible for the fatal accident, which a little more care on his part might have prevented. The editor remarks, in comment, that the tendency of the French courts is to increase severity in estimating the responsibilities of employers for the safety of their workmen, and cites another case where it was explicitly held that contractors are bound "to care for the safety of their men, and to protect them from the dangers incident to their work;" that "under penalty" they must anticipate "possible causes of accident," and take, and cause to be taken by their agents, all necessary precautions to prevent or avert them; that "they are bound even to guard the workmen against the consequences of their own imprudence." The general rule of the French courts is, further, to acquit the employer of responsibility only where "the imprudence of the victim has been the sole cause of the accident." This looks severe, but we should hesitate to say it is not in strict accord with the dictates of a sound public policy, as well as of humanity. It would certainly be well for American contractors to lay it to heart, as a measure of their moral, if not legal, responsibility.

In connection with the rigid rulings of the French courts, it may be well to note the tendency of English law on the same subject. A recent case, that of Griffiths against the St. Katherine's Dock Co. of London, reported in the *Building and Engineering Times*, furnishes an illustration. The plaintiff was injured by the fall of an iron door, which had been in an unsafe condition for a long time previous to the accident, and this fact was well known to the defendant company, as was proved and admitted on the trial. The court held that this alone was not sufficient to make the company answerable in damages, that it was necessary further to prove that this danger was unknown to the plaintiff, up to the time of the injury. The general principle was laid down that, "if a servant enters or continues in an employ, knowing of the danger incident thereto, he cannot recover, since he might have escaped by leaving the service." It may be well, perhaps, to admonish some classes of employes, that if they continue in dangerous work, they do so at their own risk; but it is not difficult to imagine cases where the peculiar nature of the business or of the workman's position is such that he is practically unable to leave his employment, though he knows it to be dangerous. In overcrowded London, a man who should throw up one place might suffer much privation before he could get another, and the new place might prove yet more dangerous than the old, and farther from his home and in many other ways less desirable. But it is difficult to imagine a reason other than criminal negligence, why a corporation should knowingly permit the premises occupied by its workmen to be in an unsafe condition and remain so; and the law which relieves a corporation of responsibility for accidents which happen to its men through such willful neglect to repair its own premises, on the heartless excuse that the injured men knew of the danger, looks more like a temptation to manslaughter than anything else. We trust it will not be considered an authoritative precedent for American courts.—*The Inland Architect and Builder.*

Farm and Fireside of April 1 gives some interesting figures showing how the mechanics of Springfield, Ohio, are kept in poverty. It cites two cases of losses, the first being a loss of $25,000 a year on coal. "The retail price of coal in Springfield has been a dollar a ton higher than in Columbus, the difference in price being more than double the difference in cost of hauling." The five thousand families will burn during the year not less than fifty thousand tons of coal, on which they have been wrongfully taxed more than a half dollar a ton, or $25,000 per annum, which might have been saved by uniting in the purchase of coal. The other loss is one that comes through rum. Springfield maintains 175 saloons, and the estimate is made that the 25,000 inhabitants expend $350,000 annually, which enormous sum is mainly drawn from the pockets of laboring men.

THE first Bessemer steel converted in the South was made at Chattanooga, Tenn., on April 19, by the South Tredegar works. The experimental cast of two gross tons proved excellent steel under all tests applied. The material used was pig-iron from Cranberry ores, North Carolina, and shows that ore to be excellent steel material. The plant has a capacity of eighty-five tons per day. The success has caused much gratification among Southern iron-masters.

A bound volume of this Journal, for either of the years, 1880, 1881, or 1882, will be sent free to all new subscribers for balance of this year and 1887.

Building Permits.

AS we understand it, in nearly all the Eastern cities, laws or ordinances exist, requiring the obtainment of building permits in *all cases* of the erection of new or remodeling of old buildings. Such a regulation is good, and should be in practice everywhere, as it would regulate procedures and prevent many of the difficulties which so often arise in San Francisco, particularly in connection with the alteration of buildings within the fire limits. At present, there are ordinances requiring permits to open streets, for the putting in of sewers, etc., on which a deposit of twenty dollars is required, to insure the proper replacing of the street, and also permits to occupy a certain portion of the street during the erection of buildings, building areas, etc., in certain parts of the city, at least. If this permit rule was general and imperative in all cases, it would furnish an easy method of ascertaining the extent of building improvements made during the year. As it is now, everybody does and acts as he pleases, and there is no check upon irregularities. There should be a compulsory and imperative law upon this point. It would be an easy matter for an owner, architect, or builder, to report every improvement entered into, and obtain a permit; and a penalty should attach to every violation of the rule. The do-as-you-please practice is all well enough in most matters, but there are others in which individual rights and privileges should be made to subserve public interests. No harm could possibly result from such a regulation, while the general information afforded by it would be at least gratifying to every one interested in the growth and improvement of the city. Speculative estimates are often indulged in as to the amount of work under way at certain periods, often varying materially from actual facts. The permit system would remedy this, and furnish daily statistics of what was being done in the building line. Excessive or diminished estimates of business conditions sometimes do harm, and the degree of business prosperity is often misrepresented, leading to wrong conclusions. In cases of death, and in other matters, obligatory ordinances compel notices of the occurrences, because the public good seems to demand it, and the growth and prosperity of the city is a matter in which all citizens are interested, and in reference to which they have a right to be informed, which would be the case if a perfect permit system was established; one which could not be ridden over with impunity, as too many of the regulations on the ordinance book are.

THE modern improvements of the past few years have received great favor and general adoption in nearly all classes of buildings—but practically in the better kind. But with the convenience afforded by them, they have been the medium of a vast amount of sickness, suffering, and *loss of life*,—not of necessity, but because too great neglect and carelessness have been practiced in their application, and too much indifference to *serious consequences*. The modern improvements as a general thing are good, but the best invention in the world may be rendered worthless, or injurious by being tampered with by unskillful hands. There are hundreds of *pretending* mechanics, to whom it would be unwise to intrust anything requiring good judgment and practical mechanical skill, and the greater number of defects and failures in connection with the introduction of these improvements, grow out of this one cause or fact. There is no good reason why wash basins, etc., may not be set in any chamber or place, with perfect freedom and security from all bad effects, yet there are *hundreds of ladies* who object to their introduction, because of known cases where they have proved offensive,—while in fact, the whole difficulty exists in the incompetency of the superintending party, or the mechanic doing the work, and not in the thing objected to.

Circumstances.

WHAT circumstances have a great deal to do in shaping a man's life, no one can deny; for experience teaches us, and observation and historical research prove it so.

Shakespeare says, "There is a divinity [or something else] which shapes our ends, roughhew them as we will." There is no absolute dictation or iron-bound fatality in this quotation, but rather the opposite. While we would not ignore the existence of a divine power in the universe, in whose hands, and under whose control are all things in heaven and earth, while there is at times some circumstances over which man has no control, still there is nothing in these two facts which in any way hinder man from being successful and happy if he observes well the laws of his being and the laws that govern and control the movements of ordinary life.

We are not, by any means, mere living and breathing human machines, but, on the contrary, we are free, responsible agents, gifted with the power of choice, and capable of discovering right from wrong, and with full liberty to do what we will, and be what we may.

PLATE I.—FRONT ELEVATION FOR A MERCANTILE EDIFICE.

S. F. Chapter of Architects.

THE regular night for the meeting of the Chapter occurring this month on the eve of the holiday, the attendance was limited to but a few members. The time was, however, profitably spent in general conversation and discussion of topics of interest to the profession. The reading of papers by Mr. Sanders was postponed until next month, when it is hoped there will be a full attendance.

Ash, oak, walnut, etc., must step down and out before many years, and give place to mahogany, which is now used for insides and for ornamental work on railway coaches; 10,000,000 feet of mahogany annually is now the figure, as against 500,000 feet five years ago. It is said that the mahogany is now but slightly dearer than our native woods—walnut and cherry—but that it is superior to them, in that it does not warp nor check.

Eight-Hour Movement.

THE full strength of the eight hour movement at the end of the first week after May 1, the date of its attempted inauguration, was clearly shown by statistics published. The total number of workmen committed to it in all parts of the country was estimated by *Bradstreet's* at 325,000. The demand for shorter hours was early conceded to 150,000 without a strike, and to 356,000 as the result of the strike, leaving 140,000 still striking at the time referred to, or defeated. The trades in which the movement was most successful are those connected with house building, agricultural implement making, furniture making and machine building. These trades are not subject to foreign competition. In those which are subject to such competition, either in the way of exportation of the domestic product or importation of the foreign, the movement met with very little success. The whole movement may be regarded as experimental. In those branches of industry which yield sufficient profit to warrant an increase of wages, for that is what shorter time most commonly signifies, the increase has been very generally granted. In others it has not been granted, or, if granted, it will be withdrawn later. The principal part of the loss entailed by such an experiment proceeds from the stoppage of machinery. This machinery may be of the nature of general business superintendence, clerical force and organized system, as well as actual machines and tools in use. A deduction of 20 per cent. from the producing power of a large manufacturing establishment means more to the community than a deduction of one-fifth of the laboring force.

The organization of labor has thus far proceeded upon a false assumption, namely, that the wage-earners are a class having rights and interests other than and different from those of other classes. In a republic, where all men are equal before the law, and where the theory of government presumes that the greatest good of the greatest number will be sought in the framing and execution of all statutes, the idea of class rights and interests is mischievous. The interests of the wage-earner are the interests of all citizens. The time cannot be far distant when the need of yet another organization among the workingmen of this country will be recognized—an organization to protect intelligent and conservative men in the exercise of their civil rights against the oppression of those who follow the lead of dangerous demagogues, and are blinded by ignorance, prejudice, and passion, to their own welfare. The happenings of the past six months have been very instructive as emphasizing the tendency of labor to oppress labor, and the need of protection for those of independent thought and action against its cruel coercion. The order of Knights of Labor, however restrained, cannot accomplish this object. Its purpose, as defined in its fundamental law, is not that to which a majority of the thoughtful and intelligent wage-earners of the country can subscribe. It demands a scheme of national and State legislation inconsistent with the best interests of the community, and especially of the wage-earner. Those who are attracted to the order by its profession of principles are not safe leaders of a movement which wise men can follow.—*Carpentry and Building.*

Proportion of Rooms.

SPEAKING on the subject of proportion of rooms, with reference to their sanitary features, Douglass Golton says: "For purposes of ventilation the height must bear some relation to the size. Adequate movement in the currents of air cannot be secured in a room unless the height be proportioned to the width and length. The minimum height must be fixed with reference to that which will allow the currents of air to circulate without being inconvenient to the occupants. Therefore, in proportion as the width and length of a room are increased, so must the height be increased. On this account it is not advisable to make rooms much less than ten feet high. With large rooms, as the height should be increased in proportion to the size, if the cubic space be the measure of the number of occupants, the area or floor space per occupant would diminish with the size of the room. As, therefore, the height of rooms is necessarily variable, it follows that it is rather the floor space which must be considered in allotting accommodation to the occupants of a room than the cubic space. In barracks a floor space of from 50 to 60, and occasionally 80, square feet is allowed per occupant. These are for rooms occupied by day as well as for sleeping-rooms. In work-houses, for dormitories, a minimum floor space of 25 square feet has been admitted, provided the ventilation was carefully attended to. In nurseries and servants' rooms from 50 to 60 square feet are desirable per occupant—that is to say, a room 10 feet square, or 10 feet by 12 feet in area, should not contain more than two persons. In school rooms which are only occupied during parts of a day, and where the air can be changed between the periods of occupation, a less amount would suffice, and from 15 to 20 square feet are sufficient."

OUR ILLUSTRATIONS.—Plate 1, front elevation for a mercantile or business house. Plate 2, a cabinet and case of drawers. Plates 3, 4 and 5 descriptions of the ferry steamer *Solano*, the largest ferry boat in the world. Plate 6, the better class of Chinese garden huts, many of them being far more wretched in general appearance, the walls and roofs being covered with old tin cans, etc.

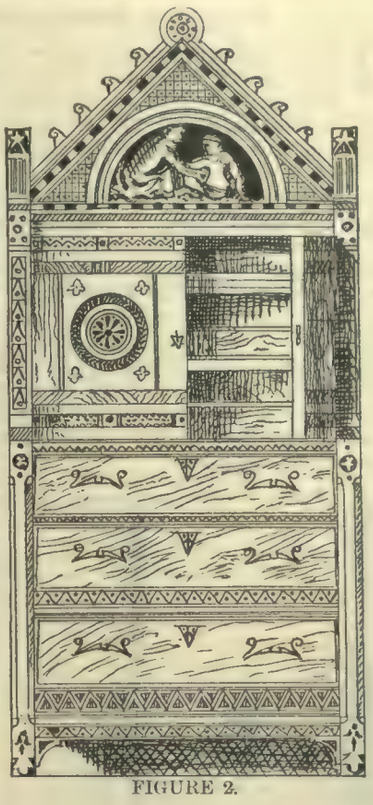


FIGURE 2.

BUT few fully and rightly understand or realize that errors may be committed in the erection of a home for their families calculated to produce sickness and death to loved ones. Yet it is so, and those who contemplate the erection, particularly of private dwellings, cannot exercise too much care and caution in every particular, so as to avoid mistakes and errors of every sort. Too often pretenders, willing to render services for nominal compensation, whose knowledge beyond the mere matter of drawing lines and coloring plans is exceedingly limited, and so far as possessed, of an imperfect character, are intrusted with the responsible duties of an architect. Consequently when they enter into detailments by specifications of that which is to be done, they conglomerate ideas so badly, and specify so much at variance with good mechanical judgment and common sense, that a superabundance of serious blunders and impracticabilities at variance with all proper mechanical principles follow. This is particularly the case in reference to plumbing and sewer work, than which there are no more essential features in connection with house-building. They commit, virtually, criminal errors; for their mistakes sometimes destroy more valuable lives than their own. Both owners and architects should consider this subject carefully, the former to avoid the mistake that all men are competent in the lines of business or profession followed by them, and the latter, not to claim an understanding of matters beyond their actual qualifications and the reach of improvement. No man is fitted to perform duties in any connection, who conceives the notion that beyond the bounds of his own knowledge there can be no advancement. Advancement and progression have been going on since the day that Noah left the ark, and sensible and practical men realize the fact that there is and ever will be more to learn, and that the fountains of improvement and knowledge will continue to flow so long as life lasts. It is only simpletons who *know it all*, and assert for themselves absolute superiority of thought and practice. Care is therefore necessary in the selection of parties to intrust with responsible duties, and owners will best subserve their own interests by its fullest exercise in connection with the erection of homes for their families. There can be no question but that *tens of thousands of lives* have been sacrificed by the employment of cheap, incompetent architects, plumbers, etc., resulting in imperfect dwellings, where, through defective plumbing and sewer work, the poisonous gases have entered buildings, to work out their own terrible results. The veriest fraud of a plumber will often assert absolutely perfected knowledge of the intricacies in this connection, and with the cavalierness of a highwayman claim that those things that have occupied and puzzled capable minds are, to him, well understood. Good meaning, honest owners are often entrapped by such deceivers into a reposal of confidence, which results injuriously. If the plastering, painting, and other works of a building are poorly executed, each and all are annoyances, but not fatal to health and life. Hence the importance of certainty in these special directions, by and through which alone healthful homes can be secured.

IT would require 50,000,000 pounds of wire to erect a telegraph around the earth at the equator, and but a half-pound of the thread made by a certain species of spider.

The Ferry Steamers of California.

GREAT credit is unquestionably due those who conceived the plans, and to the skill and genius of California mechanics and artisans in the production of the many elegant and powerful steam vessels used as "ferry-boats" upon the bay of San Francisco and its tributary waters.

Pre-eminent for massiveness and power is the *Solano*, the special object of the accompanying illustrations, plying between Benicia and Port Costa, across the flowing and ebbing waters of Suisun Bay, and completing the connection of Central Pacific Railroad travel to and from Sacramento and across the continent, while the *Piedmont* and many other large and commodious passenger ferry-boats, fill out the link between San Francisco and Oakland. The *Tiburon*, *Newark*, *Bay City*, and numerous other elegant ferry vessels—population and travel considered—provide ferry facilities as great and comfortable as are to be found in any part of the world; and in the matters of convenience, size, and completeness, the ferry steamers upon the bay of San Francisco are unsurpassed.

PLATE 3.—THE "SOLANO" IN DOCK, SHOWING GENERAL LONGITUDINAL APPEARANCE.

Equal credit is also due to the companies who have by their means brought about these handsome results, in that home labor and material have been employed in nearly every instance, and local industries encouraged. Large amounts of money have been disbursed among mechanics and working people in steam ferry enterprises. The first connection between San Francisco and Sacramento by Central Pacific Railroad was by way of Niles; but the considerable grades on that route and the greater business promise of a shore route, induced the company to seek a right of way along the margins of San Francisco, San Pablo, and Suisun Bays, and the straits of Carquinez. But the first change made in the location of the road, while it avoided grade, did not diminish the distance, and this fact, combined with other considerations, culminated in the building of a shorter and more direct line of travel. The distance between San Francisco and the capitol city, Sacramento, by the "old river route," is one hundred and twenty-five miles, and about the same by the first located roadways. To overcome this, and remedy the discomforts of tedious traveling by water, the project was conceived of building an air-line railroad across the tule and marsh land and through the counties lying westerly from Suisun Bay. To this end, proper surveys were made, showing a decrease of nearly forty miles.

In order, however, to render the proposed new route practicable, it was found necessary to establish a ferry at Port Costa, situated thirty-two miles from San Francisco. To gain time was the principal idea which led to the conception of the largest ferry-boat in the world. Size, indeed, was needed in order to accommodate the numerous trains, crossing and re-crossing, in order that travelers and merchants would not suffer from long and tedious delays incident to small boat accommodations.

It will be noticed that there are four lines of rails on the deck of the steamer. To show its immense carrying capacity, the following measurements will enable any one conversant with railroad cars to estimate the number the *Solano* will take at one time. The extreme length of the main deck is 494 feet 8 inches; length of hull, 406 feet 2 inches; width over all, 116 feet; width between wheel casings 64 feet; height amidships, 18 feet 6 inches; height at ends, 15 feet 9 inches; draught when loaded, 6 feet 6 inches; tonnage 3540 tons. From the above measurements, it will be seen that there is ample accommodations for forty-eight freight cars, or twenty-four passenger cars, besides locomotive and tender. As long trains have to be divided, it is necessary that an extra locomotive accompany each train that is ferried over. Our engraving also accurately shows the arrangement of the apron or stage by which trains are transferred to and from the boat. This is so nicely arranged and balanced that scarcely a jolt is felt by the passengers in the cars when the train leaves the steamer for *terra firma*.

Two separate vertical beam engines propel the boat. These were built by Messrs. Harlan and Hollingsworth, of Wilmington, Delaware. The cylinders are 5 feet 2¼ inches in diameter, with 11 feet .28 inches stroke. Each engine is fully capable of developing 2,000 horse-power. Steam is furnished by eight boilers, each 7 feet .25 inches in diameter and 16 feet long. They are made of steel, and have 143 tubes 3.94 inches in diameter, and 16 feet long. The total heating service is 19,630 square feet. No coal is used, the steam being developed by the burning of crude petroleum. The wheels are 30 feet in diameter and have 24 floats. Each wheel can be worked independently of the other. Unlike any other steamer that we have seen, the wheels are not on a line, one being considerably in advance of the other; this was done so that the boat could be easily and quickly turned in order to enter the slips on each end of the ferry route without injuring the same.

The above engraving represents the general construction of the *Solano*. Beneath each line of rails runs a deep Pratt truss, the top flange of which is attached to the deck and the bottom to the hull of the boat. The latter is divided by bulkheads into

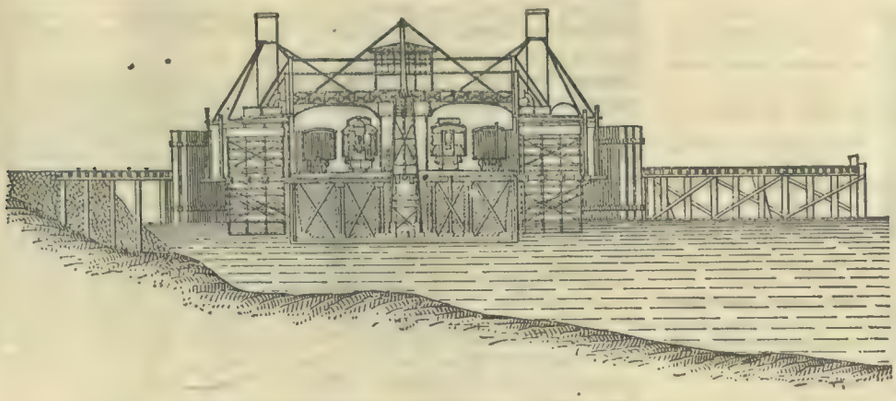


PLATE 5.—FIG. 2, SECTIONAL VIEW OF HULL.

twelve compartments. There are four balanced rudders at each end of the vessel, 10 feet 6 inches long and 6 feet 6 inches high. These are worked by hydraulic steering gear, but can be actuated by hand when desired. The pilot-house is more than 40 feet above the deck. The stages, or aprons, for embarking and disembarking trains, are massive iron structures, 98 feet 6 inches long and weighing 150 tons. They are provided with four lines of rails, and are controlled by hydraulic gear to adapt their position to the rise and fall of the tide.

The two towers seen in the back ground (Figure 2) near the center of the engraving, are similar to those near the slip where the *Solano* is at rest. They mark the entrance to the slip on the Benicia side of the bay. The large mountain on the right is called Mount Diablo. The track on the right is the one by which passengers and freight are conveyed to Stockton, Los Angeles, New Orleans, and way stations. It also connects at Lathrop with trains for Sacramento and all points east to New York, *via* Central Pacific Railroad. Immediately around the turn as shown, are the immense warehouses and docks of the Nevada Transportation Company.

Some difficulty was experienced in selecting a name for the subject of this article. The inhabitants of Benicia, with a just pride, desired the leviathan to be named after that place. After careful deliberation, the company decided that too much confusion would likely be caused in regard to the distribution of mail matter. Letters and packages intended for the boat *Benicia* might be delivered to the town by that name, and *vice versa*. So the name of the county in which Benicia is situated was given to the magnificent specimen of marine architecture, justly entitled to be called the largest ferry-boat in the world.

Why Nearly All the Railroads Are Four Feet and Eight and One-half Inches Wide.

A CORRESPONDENT asks: "Why was the standard gauge of railroads fixed at 4 feet 8½ inches? What was the scientific reason for adopting the fraction of an inch?"

There is no scientific or any other reason for it, except precedent and custom. In fact, all scientific or practical considerations that can enter into the question are against it. When Mr. Stephenson built his first locomotive, he, for some reason best known to himself, built it to the gauge of the old tramways—for vehicles drawn by horses—in England, which was 4 feet 8½ inches. That became what was known as the "narrow gauge" in England, and was naturally followed in this country to a very great extent. Some of our roads have a gauge of 4 feet 8½ inches; others, 4 feet 8¾ inches; and still others, 4 feet 9 inches. In England they have a 6-foot "broad-gauge," and at one time, for a very little while, tried a 7-foot gauge. The Erie road, built by English capital, was at first a 6-foot gauge, but in 1876 the changing of it to 4 feet 8½ inches was begun, and now it is all of that gauge. The Pennsylvania Railroad Company uses a gauge of 4 feet 9 inches, because that is a compromise gauge between the former gauge of 4 feet 8½ inches on the Eastern lines and 4 feet 10 inches on its roads west of Pittsburg. It would be well if the 4 feet 8½ inches gauge could be widened a little, to enable greater width of the fire-boxes of locomotives, and consequently more powerful engines, such as it would be desirable to employ.

LIGHT colors absorb less and reflect more heat than dark colors. White is the best reflector, and black the best absorber and radiator, provided the colors are not covered by coatings of varnish.

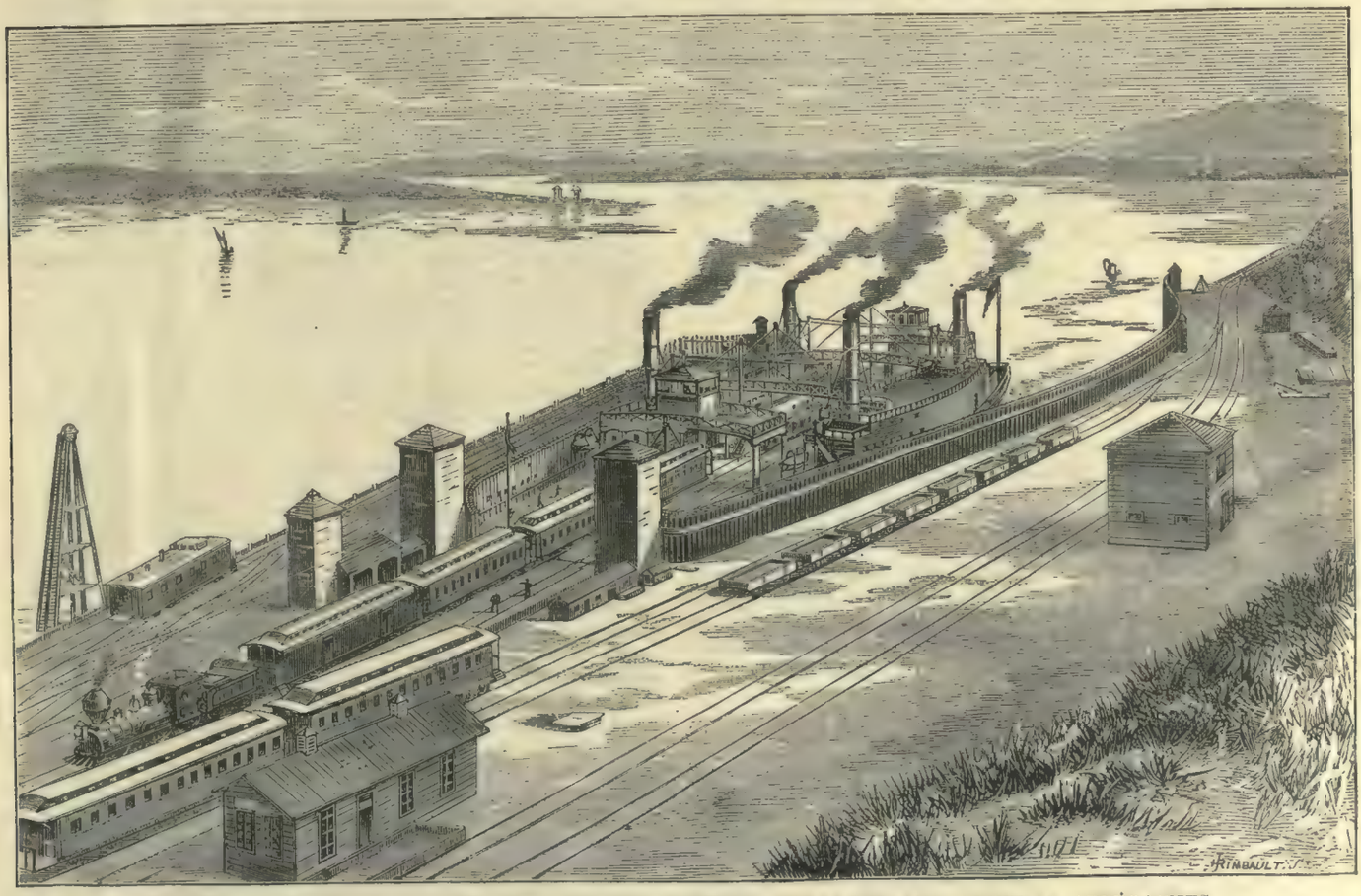


PLATE 4.—ISOMETRICAL VIEW OF "SOLANO" SHOWING WHARVES AND GENERAL APPROACHES.

We will be pleased to receive for publication in this column items of information in regard to practical ideas connected with the mechanical part of the building trade. We especially invite suggestions from apprentices and young mechanics.

"A carpenter is known by his shavings." He is also known by the character of his work, and the state of his tools may be known by the same standard.

To Find Number of Studs Required around the Outside of Building.—Take three-quarters of the circumference—in feet—of the outside of the building. Add one stud for each corner, angle, and opening; or, allow one stud for every foot of the outside measurement.

In planning stairs, think of your head room from the lowest starting point to the highest landing, or somewhere in ascending or descending stunning falls and broken limbs may accompany bruised foreheads and broken heads.

The "Steel Square and Its Uses," as it originally appeared in these columns, will not be published in book form. We have, however, a work by that name which we will forward to any address upon receipt of $1.00, either in coin or one-cent stamps.

Bad work is set out by the "rule of thumb."

Driving Nails.—The handle of a hammer should be grasped at a short distance above the end of the handle, in such a manner that the end of the handle projects an inch or more beyond the side of the hand. The hand and the eye act so well together in concert that, after a little practice, the amateur will have no difficulty in hitting a nail square on the head. If not so hit, the force of the blow will be partly lost, and the nail will be moved out of position. In driving nails in hard wood, a hole should first be made, either with a brad-awl or a gimlet. Sometimes a knot will cause a nail to swerve from its right direction, and even to curl up, thrusting the point through the wood at no very great distance from the hole at which it has entered, "coming out," in workman's parlance, "*to have a look at the fool that is driving it.*

One thousand feet of lath are 2,000 pieces, and will cover 120 square yards.

Jack Planes; Why so Called.—"Since every Jack became a gentleman, there's many a gentle person made a Jack." So wrote W. Shakespeare, Esq., in his immortal tragedy, "Richard III." The term "jack" seems to have been applied to any mechanical contrivance for replacing the personal service of an attendant, or to an implement subjected to rough and familiar usage. In England the most common name is John, and the familiar synonym of that cognomen—Jack—was applied to the plane. It is derived from the Jewish word "Jacobus," and was corrupted into "Jacques" in France, and, being the commonest Christian name in the latter country, was used as a contemptuous expression for a common man; hence the term "jack" is applied as mentioned above. Besides the jack plane, we have roasting jack, jack screw, boot jack, jack towel, jack boots, black jack, etc.

One and one-fourth yards of good sand will suffice for 100 square yards of plastering; 1½ barrels of lime for one coat, and 2½ barrels for two coats, for same number of yards; one bushel of hair to above quantities. One-third barrel plaster will hard-finish 100 square yards.

Tall Chimneys and Spires.—Lowell has four chimneys over 200 feet high. The Merrimack Company has two chimneys 283 and 206 feet respectively; also 110 steam engines. Glasgow, Scotland, has a 446-foot chimney, not for smoke, but for chemical fumes, and another chemical chimney of 350 feet; and Manchester, England, has one of 415 feet. The Merrimack Company's is the tallest smoke-chimney in the world. The Tremont and Suffolk Company has one 225 feet, and the Lawrence Company one 211 feet. The chimney of the Pacific Mills, Lawrence, is 227 feet; that of the Navy Yard, Boston, 239½ feet. Bunker Hill monument is 221 feet tall. Trinity Church spire, New York, is 284 feet.

Fifty pounds of building paper will cover sixty yards.

Many thoughtless workmen seem imbued with the notion that the more glue there is used in joining wood together, the stronger will be the joint. This is a great mistake, for a *thick layer of glue makes a weak joint.* Indeed, the thinner, in reason, the glue, the stronger will be the joint, the great desideratum being the exclusion of air. If the air could be *entirely* expelled from between two surfaces, they would adhere one to the other without glue. In the manufacture of a certain sort of glass, where one piece is ground against another to bring them to a *face*, it is sometimes the case that the air is so perfectly excluded that the two plates adhere so firmly to each other that they cannot be separated without fracture. Glue should be used while hot, and the surfaces to be joined rubbed together before the clamps are applied.

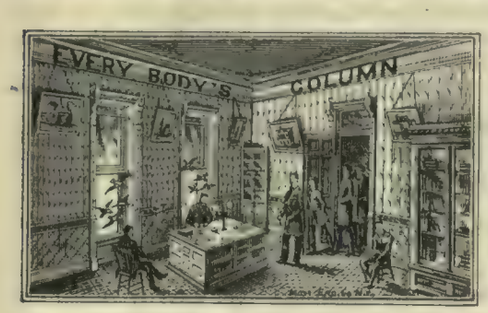
Whitewash.—One-half bushel good, fresh, unslaked lime. Slake it with boiling water, covering it during the process, to keep in the steam. Strain the liquid through a fine seive or strainer, and add to it a peck of clean salt, previously dissolved in warm water; three pounds of good rice, ground to a thin paste and stirred in while boiling hot; one-half pound powdered Spanish whiting, and a pound of clean glue, which has been previously dissolved by first soaking it well, and then hanging it over a slow fire, using an ordinary glue pot. Add five gallons of hot water to the mixture, stir it well, and let it stand a few days, carefully covering it over. *Must be applied hot.* One pint will cover one square yard of finished surface. This wash retains its brilliancy for years; can be applied to surfaced lumber instead of paint.

Tints may be imparted to whitewash by adding a little blue black, or indigo, or orange red, or Venetian red.

The Flight of Time.

Its tramp is steady, quiet, rapid, sure, and its periods certain. It has been flying for myriads of ages, carrying with it growth and decay, happiness and misery, light and darkness, sunshine and storm; and still it speeds its onward course, heeding not the wails of grief and anguish, as it lands one after another of the human family beyond its confines. Its history is made up of joys and sorrows, hopes and disappointments, bright suns and dark hours, silvery lit and starry skies and midnight gloom; balmy zephyrs and resistless storms, each and all passing away *in the breath of time.* Millions of years mark its duration, and millions more will yet pass to its account; yet it matters not how fast it flies, if in its flight it bears no story of misspent days and hours, as far as those now wafted upon its ever-vanishing course are concerned. Its records will tell how well or badly each has improved its fleeing moments. That which has been and is we know. That which is beyond in the vast immensity of the great hereafter, is hidden from human knowledge by the dark and impenetrable veil of uncertainty, through and beyond which no mortal eye hath seen or penetrated, except so far as revealed to multitudes who live in the light of faith in things not made manifest by sight, allured by the angel Hope to realize that when time and mortality to them shall have passed away, a brighter and better condition awaits them, where, purified from all the entanglements and ills of time, the realms of purity and perpetual rest will be entered and enjoyed; where, in the immortality that will abide forever, they will revel in scenes of perpetual peace and uninterrupted love and purity. Thus the votaries of Hope, holding faith in future bliss, draw consolation to themselves, and the embitterments of time are mellowed and softened by the dews distilled from faith in things hoped for. Still flying time stops not nor pauses in its speedy passing away, nor stays its onward course, because from its embrace millions and millions of human kind have passed away, nor any remain beyond their allotted time to enjoy its enchantments and opportunities.

ASKED, ANSWERED, AND COMMUNICATED.



☞ Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

A YOUNG mechanic inquires for a "correct method of finding the length of one of the sides of an octagon, the diameter being given."

Rule.—Knowing the diameter of an octagon and the length of one of its sides, to find the length of side of any octagon, add or subtract, as the case may be, to the known length, two and one-half inches for each six inches of diameter.

In order to use this rule, it will be necessary to remember some one certain measurement. Assume 8 feet as the average width. The length of side will be 3 feet $3\frac{1}{4}$ inches. Paste this with the rule on inside of your tool-chest lid. Suppose diameter is 9 feet 9 inches. Difference between 8 feet and 9 feet 9 inches is 21 inches. Apply the rule, and we have $3\frac{1}{2} \times 2\frac{1}{2} = 8\frac{3}{4}$; add this to the length of side given, and the result is 4 feet $\frac{1}{2}$ inch, which is the correct length of side.

THE weight of zinc per superficial foot is as follows:—

Nos.	10	11	12	13	14	15	16
Weight, oz.,	9	11	13	16	19	22	25

NEVER use iron nails in laying zinc, as iron and zinc combined, causes galvanic action, which ultimately destroys the latter named metal.

THERE is no absolute need of painting zinc work; for exposing it to the atmosphere has the effect of coating it with a thin film of oxide, which protects it from the further action of the air as effectually as paint.

PAPER HANGER'S PASTE AND HOW TO APPLY IT.—Good paste for paper hanging is made of old flour, mixed to a milk-like consistency with water. When put in a kettle to boil, a little size or glue may be added, which will increase its tenacity. A little alum may also be added, in order to keep the paste sweet and to cause it to spread more freely. When boiled, it should be of the thickness of ordinary gruel, and laid on the paper smoothly and equally with backward and forward strokes of the brush. Care should be taken not to load the brush with too much paste at one time, lest the paper be rendered too damp. When an overabundance of paste is used, a little is pressed out at the edge when the cloth is used to dab the paper against the wall. This may be removed by a sponge dipped in clean water.

IN answer to a student; there are three primary Greek orders: Doric, Ionic, Corinthian, to which the Romans added the Tuscan and the Composite.

THE ancient Greeks seem to have been unacquainted with the principle of the arch, all their doorways, windows, and spaces between columns being on the principles of the architrave. In Roman architecture, the arch is one of the principal features. In Greece, the rivers are very small and the means of crossing them were simple; but in Italy the width of the rivers necessitated the use of arched bridges.

DORMER windows are small windows built out of a high-pitched roof; they are so called because they were originally used for dormitories or sleeping chambers.

A WOMAN made the first orange box in California, and has built up an industry that now amounts to 50,000 boxes a year. —*Ex.* Truly, Californians have to go away from home for items.

INDICATIONS point to an increased price for tools in the wood-working line. Mechanics should make calculations accordingly.

MORTAR and paint may be removed from window glass with hot, sharp vinegar.

SOOT falling on a carpet, if covered thickly with salt, can be removed without injury to the carpet.

A GOOD moth powder is made of ground hops one dram, Scotch snuff two ounces, camphor gum one ounce, black pepper one ounce, cedar saw-dust four ounces; mix thoroughly, and strew among the furs and woolens to be protected.

LARGEST MASS OF SOLID BRICK WORK.—The Mengoon pagoda is one of the most interesting sights in Burmah, and in its unfinished state is the largest mass of solid brick work in the world.

ORIGIN OF THE DORIC SHAFT.—The Doric shaft, with its characteristic diminution and channelings, was known in Egypt more than 1,000 years before its introduction into Greece, as is proved by the monuments of Beni-Hassen. Commercial relations had existed between the two countries for centuries, and it cannot be assumed that the Greeks had not seen Egyptian works of architecture. They could not have arrived at precisely the same results by independent invention.

NEW YORK CITY embraces an area of 24,394 acres.

"TOO MANY IRONS IN THE FIRE."—This is an old proverb, another version of which is: "He that hath too many irons in the fire, some of them will burn." This morsel of metaphorical wisdom, evidently the work of a blacksmith, is, of course, intended as a warning against undertaking too much, and, at first sight, sounds like a prudential maxim, well adapted to secure efficiency and singleness of aim on the part of all workers. But, more closely considered, the precept shows for itself what it really is—a piece of narrow-minded, petty prudence, adapted only to the guidance of incapables and fools.

The fact is, nobody who is good for anything needs any such cowardly caution about having "too many irons in the fire." Your active, efficient characters, they who do the largest share of work in the world, are the men who want and will have a great many "irons in the fire." Shovel, poker, tongs and all, these masterly workmen keep them always hot and always busy. The rapidity of their daily accomplishment is only equaled by its variety. Both their combinations and their execution are such as perplex and startle little minds, and lead them to repeat in full chatter much such petty maxims as the one now under consideration. It is by such men that human progress is advanced, inventions and discoveries are made, fortunes are won, and all valuable improvements and reforms are achieved.

ONE cwt. per superficial foot is an ample allowance for the probable load on an ordinary dwelling-house floor, exclusive of the weight of the floor itself. Two cwt. per superficial foot is sufficient, in many cases, for warehouses and factory floors.

THE weight of a crowd of men closely packed is about 84 pounds per superficial foot.

GIRDERS are often sawn through the middle, and the two pieces bolted together with the sawn sides outwards, not, however, as is often erroneously supposed, to increase the strength of the girder. It is really weakened by such an operation. The main benefit to be derived is that an opportunity is given to examine the heart of the timber, and thus expose cases of rottenness. Girders cut as suggested are much less liable to rot. The oldest author on architecture, Vitruvius, "directs a space of two fingers' breadth to be left between the beams for forming the architrave over columns in order that air may circulate between and prevent decay." Every observing mechanic has noticed that decay begins at the joints and other places where the pieces are neither perfectly close, nor yet sufficiently open to allow any dampness to evaporate.

IN Amsterdam, there is a floor constructed which has no joists whatever. The room is sixty feet square. The floor consists of three thicknesses of tongued and grooved flooring, each layer being one and a half inches thick. The first course is laid diagonally across the opening; the second, also diagonally, but the reverse of the first; and the third course is laid parallel with one of the sides of the room. Each layer is securely nailed to the other. The middle of the floor is kept about two and one-half inches higher than it is at the sides of the room.

Art and Architecture.

[Special for this Journal. By F. Hillert, Architect and Mechanical Engineer.]

IX. THE SENSE FOR BEAUTY.

As the first efforts in forming must naturally have been crude and simple, nevertheless man tried any way to give to the objects of the same a form which pleased him, if only by its agreeability the purpose in view was expressed. So is it proper, even on the most primitive or simple building, a projecting cornice is attached, that the rain-water falling from the roof does not run down the wall; but this cornice gives to the structure an indicating and marked form, pleasant to him if only by the purpose which is by it expressed. Gradually we seek, with consciousness to perfect the necessary and required raw material to such forms, agreeable to the purpose, which, on the whole, finish and complete a work pleasant to our view. In this way manifests itself in the highest degree the impulse or drift to form the sense for beauty. But this sense for beauty is manifoldly graded, and shows itself in most different ways; nevertheless it is the highest ornament of a nation, and the high perfection of the same by the Greek people, giving to them as such the brightest luster, and shine for all time to come. With the development of such perfections is necessarily united and conditioned a high standard of culture of the impulse for liberty and truth; then the last impulse could not express itself either with a nation existing in brutal stupidity, or with such living in despotic fetters and bondage, or living together in immoral concubinage. There would be the sense for beauty, and its expressions and manifestations for nobody's approbation and admiration, and never would come to a perfect execution. Here it would shrivel through fear, or grow wild in licentiousness. Uniform harmonies, development of thought and will, are indispensable for his own perfection, and by the same he gains such active capacities as he can and must use and apply for the general culture of mankind.

X. ITS IMPORTANCE FOR THE EDUCATION OF THE HUMAN RACE.

That the sense of beauty is necessary and unalienable for the promotion of the education of the human race, is clear and evident in every way. If we would take the sense to feel it from our world, we would cease to be human beings. Not only would it destroy the one who is used to live in artistical ideas, and find in its enjoyment the highest pleasure and satisfaction, but even of the most modest and contented every attraction to live would be taken away; from the simple peasant girl, the pleasure of a flower; from the wild man of the desert, the delight in his plumage and colored adornment.

With necessity is the sense for the beautiful implanted in humanity, and in each human being are unquestionable traces to be found. By the awakening, enlivening, and cultivation of the same will be effected the imperceptible, uninterrupted, and most powerful influence on the whole human race. He knows to give form to the first religious inspiration; he permits the eye to rest always, and always with love, on nature; it leads to deep meditation over the same; it leads to respect of the sexes, to mildness of manners, and, lastly, to art; and by artistical works a considerable retractive effect is exercised. The importance of the sense for beauty has been intelligently explained and made to become universal property. It would therefore appear as if beauty is only the servant of attaining truth; but this is an illusion; for if this be true, it must be first established that the highest purpose of life would be exclusively the attaining of truth. But who will assert this, since the purpose of life could be, with the same right, the perfect ennobling and refining of our soul, the reaching of the highest good? And, lastly, should not also the attaining of the highest beauty, in the viewing of the "epitome of all heavens" be revealed and disclosed,—be a worthy purpose of life, but not an exclusive one? But also this cannot be correct. The spheres do not exclude, but condition each other; are inseparable, and act always through and by each other, so that it is no profanation of Christian mysteries, but a deep, in itself supported, truth, when in the meaning and comprehension of the sense of the "undivided Trinity," truth, goodness, and beauty, the common aim of the intellectual, the ethical, and the esthetic impulses of men have combined. So aspires the sense for the beautiful to the same aim, and finds, lastly, its termination in the same idea, in which rest the origin and fulfillment of truth, and liberty, God.

XI. ART AND POETRY.

As far as history dates back, we find in the earliest nations the coincidence of activity in the sense of the beautiful in the most differing and manifold manner. The first traces of the same appear in the habiliments of man, his utensils, arms, and such like, which were embellished, not showing directly their practical purpose, *i. e.*, the seam in a cloak being covered by a strip of cloth of a different color; or such as by the form of the object the purpose and its conditions were directly visible and evident, as in a column, as of something free-supporting. To such structures nothing compels man but his own instinct and drift, so that which he makes he gives its form a charm, pleasant to the eye or ear, to read on his mind by the two organs, to give him pleasure in the object made.

Such exertions in the sense of beauty we name art, in the widest sense, or poetry, poesie. Then here are the arts of forming and sounding not yet separated, and the Greek word and meaning taken therefrom means a making, producing, and forming by tradesmen as well as artists and poets. The law which guides and inspires him is his own feeling and sense. He is able to bring the undeterminable into form and shape. He is able to perceive, if his inner instincts and impulses are expressed, that his sense of beauty is satisfied. The process which goes on in the mind of men we lead back to the fancy or imagination, that is, the capacity of the soul to conceive and put before her things or objects which the organs of sense do not observe. Free and independent out of his imagination and conception, man learns to make and form beautiful objects and things, and he uses for this purpose the natural material and stuff, to bring them (beautiful things) into existence.

XII. DIFFERENCE IN THE ARTS OF SOUNDING AND FORMING.

Is the material or stuff used or employed words or sounds, then the objects formed belong to the dominion of the sounding arts, poetry in the closer sense and the art of sounding or music. Are the former objects of a bodily form, then they belong to the domain of the forming arts, such as the art of building, sculpture, painting. The means of the first group, that is, the condition by which necessarily the work of the same reach our observation, is time. Those of the latter group is space. The objects of the first group act on the ear, and its forms are conditioned by the motion in the time. Those of the latter act on the eye, and its form is conditioned by bodily stuff being in space. Different are both kind of objects, not by their origin and meaning, but merely by the way and manner in which the originators brought them to appearance and expression. There exists not only no opposition and contradiction between each of them, but more of a complete uniformity in their origin. Both are only daughters of the same mother; but she gave them to different husbands, and the children of the one worked with rule and square, the chisel, the palette, while those of the other took to the pen and to the lyre; but not one of them denies the common origin, and they acknowledge and recognize each other as sisters and brothers, and all breathe the same inspiration.

A series of pursuits and activities are rightfully included in the arts, but with the same rights the objects of the same belong to the beauties of nature. Those are all living, and man only forms the living, without taking from them the conditions of their origin and the passing from their existence. They form and make a transition from nature to art, and consist principally in the art of gardening, dancing, with the art of riding, to which may be added mimic and the art of play acting.

XIII. ART AND THE BEAUTIFUL.

The common definitions and explanations of "Art" and its spirit are, as known, insufficient and partly empty phrases. This lays in the difficulty of giving a definition of "Beauty," and we must limit ourselves to understand and comprehend the capacity of man to produce beautiful objects, either immaterial, as the bodily or the sounding, and further expanded and narrowed down to the totality of all such things, which we call works of art, although we should use analogy, as in the dominion of nature (kingdom of animation), the kingdom of art. If we would give an abstract definition of art, we would lose ourselves in the domain of phrases, or proceed solely descriptive, by separating the human action from its subject and make it objective. In the last manner may be seen in art a presentation, that is, an activity, by which the inner thought or spirit comes to appearance. But this illustration is hereby so limited and bounded that

this activity has no useful, practical purpose, but only to produce or represent. It is clear that by this definition man is forcibly removed, but again being introduced in the same, it would only make clear that art is nothing else but man's activity, respective capacity, to produce and make beautiful things. In the same time it has been tried, those which are beautiful things, to be solved with this definition. Nobody and nothing gives us the right to exclude man from this definition of art, since art is not conceivable without a human representative, or its products without a human originator. Art, man has alone.

XIV. WORKS OF ART.

The object and purpose of art are the making and creating of beautiful things. Beautiful things made by man are therefore works of art, and only because they are beautiful are they works of art. The spirit of a work of art is its beauty, and, figuratively speaking, the purpose of art is beauty. Things having another purpose are called useful, lovely, agreeable, useless, or bad.

If now we review a multitude of such things, which generally are included within the sphere of art, we find between them a large number of such which, to us, do not appear beautiful, and which we must call ugly as the works or objects of remote people; nevertheless we don't object to adopting them as works of art. The reason therefor is that such things and objects, at the time they were made and to their people, appeared beautiful; or were considered as such by their own maker. Who could in real earnest call beautiful the images or figures of the Assyrians at Khorsabad, the paintings of the Egyptians, or a Madonna of the Byzantines; and who could call beautiful the abortions of the Rococco? The decision on all these objects is, that they were produced by the originators in a clear, or in an indistinct and with an unconscious intention to make beautiful objects; or that, at the time of their creation and making in general, they were thought to be beautiful.

A complete contrary and contrast would be that which was made intentionally to be ugly and was made ugly. Such an idea of ugliness does not exist, since all which is ugly or kindred to it has other purposes to fulfill; let it be for the existing of fear or grief, a tickling of a sensual pleasure, or other perceptions or objects, transformations and deformities, as exist in nature. The humoristic, the comic, and the satirical are connected herewith, and will be mentioned hereafter.

An uncultured, coarse sense and mind will hold that as beautiful which appears to a cultured and refined mind, hard, ugly, and such like. With the general advance of education and culture, the appreciation of beautiful things will increase with the individual man as well as with whole nations—and the human race. In regard to its orginator, he shows by his work of art his own coarse or refined sense, and since the same, with very few exceptions, always corresponds and is the outgrowth of the sense of beauty commonly existing in his people; then this work of art will show the sense, way of thinking, and sense of feeling of the whole nation. In the series of the works of art made by the same is revealed its inner and particular development and historical culture, which would, without the same, be forever lost and unknown to us. What would we, for example, know of the Greeks, if of the high temples and towns, of the marble figures of the gods, of the pictures and utensils, no trace was preserved; the genius of Homer would be dumb and silent to us, the muse of Sophocles lost forever, and all that which, being kindred to those spheres, would be to the slightest presentiment strange to us. To think this, though, is already impossible, since Greek life without art is not conceivable. By our works of art we will be judged by posterity, justly, according to the merits of the present age.

XV. BEAUTY.

Since the purpose and the spirit of a work of art is the beautiful, we have now arrived at the question: What is beauty? A general logical definition of beauty cannot, by any means, be established or put up; since it must be brought back to that capacity of man which is not of a logical nature, the mind. But the beautiful is, nevertheless, not possible without certain practical relations; the same are again to be put up with difficulty and explored, as the reasonable necessity of a conclusion is missing. Then, from the divided opinion of men, and the want of proof bearing the logical test of such opinion, to call an object beautiful is to raise the question, Are objects beautiful themselves, or do we only feel in our minds the impression of beauty; or, Is beauty an objective property of bodies, such as gravity, expansion, color and such like; or, Is it only a subjective sensation in man transferred to one subject? Without illustrating these points for and against it, and perhaps arriving at a result, it may be sufficient to state that beauty is neither purely objective nor purely subjective, but is both at the same time. If beauty was purely objective, she must appear to all men alike, as a red colored body must appear red to all; but would beauty be purely subjective, she would not make on the many one and the same impression, but would appear different to all; so much different from each other as each individual man's form, mode of thinking and of feeling, differs from those of another. At the same result we would arrive, when we reflect that beauty is not purely spiritual, but is attached to a certain concrete form, through which it operates on our senses by our eyes and our ears. The peculiar form being unconditionally attached to the object, is inseparable from the beauty of the thing itself; then the same would, when changed in its form, cease to be beautiful. In this sense, beauty is something objective, adhering to the thing itself. Otherwise is this form, for such a one not comprehending the same, just as incomprehensible as if beauty did not exist, and he would not call the thing beautiful; but only the one will find the same beautiful, having a suitable fine feeling, refinement, a fit and proper way and manner of perception, from which it can be concluded that the beauty is transferred to the things by the person enjoying it.

But how are we to proceed? If from general truth, a logical conclusion of the spirit of the beautiful cannot be formed, lays therein generally the impossibility to get closer and nearer to the same? or does a method exist which at least approximately leads to this aim? This is the empirical method, which tries to deduct from experience a principle. It has been truthfully said that we cannot proceed in the same way as in geometry, which goes from the general to the special, and singly and from the spirit of the thing to their properties and concludes, but we must content ourselves, from only single pieces, to draw probable conclusions. Of what sort or kind these conclusions must be is clear; that they cannot be purely defining the object; nor be purely of a physiological kind, to explore and investigate the affections and emotions in the human mind; but must refer themselves from the relation of the beautiful thing to man, which in the main will be objective and formative explanations. But the conclusive characteristic signs or marks which we perceive by viewing beautiful things are these—that the thing itself pleases us well, and that we in the same thing, merely as stuff and as a body, positively take no interest. When we, for example, find a bronze monument beautiful, we do not consider by far the value of the material which, when coined to pennies, would make to many no indifferent object. In this feeling, not wished for nor desired (disinterestedly) lays a deep satisfaction in the mind of man to make and produce beautiful things. The capacity and ability on which this satisfaction and pleasure is based, is "Taste," which is man's esthetic capacity of judging things in regard to the beauty of the subject; taste is ruling. The word "taste," being raised to a school expression, is nothing else than the sense for beauty of the single individual man, so that it is eas to be seen, in regard to the definition for the beautiful, we move around in a circumference. Two illustrative reflections come to our aid,—one that the pleasure of the beautiful is not purely sensitive, and the other, that in the appearance of the beautiful thing lays direct the semblance of a spirit; both differences we must recognize clearly and plainly by our intellect and reason. If now this contentment and pleasure are not purely sensitive and expanded, are not exclusively in our feeling, then they exist necessarily in accord with feeling and thought, the mind and the spirit, or, as may be expressed, in the harmonious play between imagination and intellect. But that in the appearance of the beautiful lays direct a spiritual sense, leads to the recognition of the purpose of the beautiful thing, which directly becomes perceptible; without that the intellect sees directly the purpose. The point in question is the spiritual meaning of the beautiful thing, which in the aspect comes directly to view, in the most suitable manner, so that a perfect harmony between the spiritual meaning and contents—the idea, and the outward appearance of its form, exists.

XVI. BEAUTY OF NATURE.

It is now the time to mention in a few words the relation of beauty in nature to beauty in art. In nature all things have certain practical reasons and purposes, and undergo and underlay an uninterrupted change; and beauty is here only an adornment of the necessary, even if the same in a higher sense itself is needed, and so united, that with and by each change, the same itself is changed, dissolved, or destroyed. The conditions under which beauty is attached to nature are inconstant, continuously beginning and ending. Man alone is capable of producing things of which beauty is not a subordinate aim, but is the sole and exclusive purpose, untouched by the changes of nature, unalienable, retaining its beauty, giving a presentiment of eternal duration.

(*To be continued.*)

PLATE 6.—CHINESE GARDEN HUT.

Graining.

In graining work that is paneled, the lights and shades of the panel should be stronger than on the rest of surface. The rails and stiles of doors should be more simple than the panels in the imitation of dark decorated woods, as rosewood. If the cross rails are full of work, make the upright stiles plain, for their appearance is changed by their position with regard to light. Perhaps the greatest triumph in staining is imitating successfully the curls of mahogany. Graining in maple wood is suitable for dining-rooms; the color of maple varies very much, and therefore it is necessary to select a choice piece for imitation. Pollard-oak graining suits well for a dining-room, with its warm color and rich effect, the color varying from the lightness of maple to the darkness of mahogany, so affording a range of choice. Oak color is adapted to all styles of wainscot, harmonizing with warm colors on wall space, whether this be papered or painted, and making pleasing contrasts with cold ones. It also looks well on the ceiling cornices of lobbies. In wainscot graining the lights and shades on the panels should be the strongest. If the prevalent color of a room be warm, the graining of the wood-work should correspond; if crimson, maple, satin wood, or oak graining may be employed; if green, some cool-toned and light-colored wood. Smoothness of surface is important in the grained imitation of woods, as well as the rendering of deep, transparent, and shadowy half tints. The grainer should not revel, as we have seen some do, in knots, which, indeed, should be left out, as well as the representation of cross-grained stuff, which the architects would avoid in real wood, whether for stiles, rails, or panels. Where wood has been previously painted, the grainer should examine it closely to see that it is not liable to peel off, and so spoil his work. Where marble has to be imitated, in order to secure a transparent effect the best polished copal should be used with colors, never turpentine.—*Painters' Magazine and Coach Painter.*

The world moves on, inventions and progress still rush together for the benefit of the present generation; but we look back with a feeling of veneration to the art and talent displayed in ancient architecture. In all the modern edifices of which we pride ourselves, the striking features are but a reproduction of the thought of the old masters, with the exceptions that we build in a few months buildings that would have taken them years to complete. We are gradually returning to the age of artistic wrought iron, cunning designs in brass, elaborate wood carving and marble tessellate pavements. Acquiring wealth rapidly, we are less inclined to look at the cost of the work so artistic and durable. The old Romans prided themselves on the marble floors of their dwellings, and the proof of their knowledge of its durability is demonstrated by the recent discoveries made in Roman ruins, where the marble mosaic pavement retains its original designs and colors. Of late years, an Italian artist, Mr. Caretti, has introduced this work in some of our new-fashioned residences, and a handsome design for the hall of Mr. A. D. Kohn's house is his latest work. Should, in centuries to come, Macaulay's New Zealander be digging in the ruins of Chicago, a marble mosaic pavement may be brought to light, and create a discussion as to whether Chicago was an old Roman city or the creation of a more modern age.

Some of our scientific exchanges are describing a kind of concrete that is said to be in use for building purposes in France. It possesses the desirable qualities of solidity and hardness. It is said to be composed of 8 parts of sand, gravel and pebbles; 1 part of common earth, burnt and powdered; 1 part of powdered cinders, and 1½ parts of unslaked hydraulic lime. These materials are thoroughly beaten up together, their mixture giving a concrete which sets almost immediately, and becomes in a few days extremely hard and solid, which property may be still further increased by the addition of a small quantity—say 1 part—of cement. Among other constructions to which this material has been applied is a house three stories in height, 65x45 feet, standing on a terrace, having a perpendicular retaining wall 200 feet in length and 20 feet high. Every part of this structure was made of the hard concrete, including foundations, vaults of cellars, retaining wall, and all walls, exterior and interior, as well as the cornice work, mouldings, string courses, balustrades, parapets, and the building is without band iron, lintels, or wood throughout.

In order to render glue insoluble in water, it is only necessary to add a little potassium bi-chromate to the water in which it is dissolved, and expose the glued part to the light. One-fiftieth part of the bi-chromate will suffice.

A bound volume of this Journal for either of the years, 1880, 1881, or 1882, will be sent free to all new subscribers for balance of this year and 1887.

Glimpses of Sunshine.

MECHANICS are apt to compare their life of toil and scanty pay to a long season of cloudy weather. They feel that they are under a shadow, hemmed in by circumstances which they cannot control, and that they must keep on treading, as does the horse, on an endless treading-machine. Skilled mechanics here and there have good-paying positions, but the great mass have all they can do to make ends meet. Probably this is partly due to this era of extravagance in the mode of living and of dress. The American mechanic cannot submit to live like a savage, nor even like some in our midst, who swarm together like pigs. He is fond of home, and no matter how humble it may be, he will make it as bright and cheerful as his means will permit; in fact, he is more likely to spend a little more than he earns, than he is to pinch and deny himself to save a few dollars every year.

But in the last ten or fifteen years the men who work at trades have experienced a steady decline in their incomes, partly from lower wages, and partly from lack of work.

It used to be that men were employed from January to December, but that day is past, and nine months is now about the average time made. Week and piece-work prices were formerly higher, and probably the employers obtained better prices than they do now. But labor-saving machinery has placed the employers on a footing by which they make as much clear profit as formerly, but it is distributed over an increased output.

The mechanics, especially the skilled ones, have had no means of competing by their labor, as an offset to the rapidity of steam power. The effect has been to push them aside, or compel them to accept greatly reduced pay, or turn their hand to something else. There has been a steady weeding out of good mechanics, and a steady influx of laborers who had brains enough to feed a machine.

Crowded out of their regular work, and compelled to squeeze in wherever there was an opening, it engendered a spirit of unrest, and a determination to make an effort to better their condition by concerted action. We now witness the result in the gigantic organizations that have been formed, and which are making demands that are rapidly being acknowledged by the public as reasonable and just.

For a time there was a chaos of doubts, fears, and misapprehensions on the part of the public, and even many workmen stood trembling, and fearful that the demands of organized labor would but increase their burdens. But when the workmen stated their case calmly and fearlessly, and showed that they were in earnest, and that nothing could swerve them from their purpose to gradually and lawfully compel just treatment, a little blue sky began to appear, letting in glimpses of sunshine in the form of concessions by a generous firm here and there over the country.

The Saturday half-holiday movement among merchants has grown out of the great labor agitation, and it is plain to be seen that capital is on the giving hand. Labor must not make unreasonable demands, even under sore oppression; but having once decided on what is fair and just, it should not cease all lawful efforts until its claims have been granted. The crying need of the hour among mechanics and laborers is a little business knowledge. They need to learn that but a small proportion of men have the ability to start and develop an enterprise which may give employment to hundreds of men.

They need to learn that out of these one hundred that are steadily employed probably not one of them has the business capacity to carry on the works for a single day. They need to learn that the finished products must find a market, and that the profits over and above the cost of labor, stock, and contingent expenses are not always sufficiently large to warrant an increase in the first cost.

When the majority acknowledge the above stubborn facts, they will be much stronger in self-defense, for it will guard them against foolish outbursts of temper, and strikes, which always result in heavy losses of money and great privation in their families. What labor needs is perfect organization, guided by common-sense views of business, and plenty of money to stand out against oppression.

The money can he easily had; for if one million wage-people pay in but one dollar a year apiece, a fund is at once created that in a few years will command the respect of even the most exacting capitalist.—*Painters' Magazine and Coach Painter.*

THE *Journalist* for March says: "The trade journals are a recognized and important factor in the journalistic profession, and many of the brightest and ablest men in the country are engaged in their conduct."

Amateur Carpenters.

IT is an excellent thing for any man, whatever his business in life may be, to acquire a fair degree of mechanical skill and familiarity with tools and machinery. Such knowledge never comes amiss, even if its possessor is so fortunate as to be under no necessity of ever using it as a means of livelihood; just as a thorough practical acquaintance with the minutest details of housekeeping is valuable to any woman, though she may be surrounded by luxury all her life, and have a servant to wait on her at every turn.

But it does not follow, by any manner of means, that an amateur or half-trained workman is profitable to his employer, even at half price, or at any price. Experiments of that kind are oftener made, it would seem, in the various branches of carpenter work than in most other trades—for the reason, probably, that it is easier and more common to pick up in a desultory way a superficial knowledge of carpentry than of other callings which do not in fact require so much skill and judgment for their thorough mastery. To become a good carpenter, capable of estimating a job fairly and performing it honestly, is a matter of not a few weeks or months, but of years of diligent and conscientious work. And while the temptation is very great, in awarding the contract for a job, to give it to the lowest bidder without due regard to the probability of getting the worth of one's money, it is generally found that a single lesson of that kind is sufficient. In a broad sense the rule that "the best is the cheapest" holds good in carpenter work, as in nearly everything else.

A vigorous protest against the employment of what it calls "saw and hatchet carpenters" is made by the *Southern Lumberman*, which imputes to them not only want of skill, but want of honesty as well. As an illustration, it mentions a building contract which one of that class of carpenters offered to take for $500, while the material alone came to $570. Somebody was badly cheated, of course, and probably the lumber dealer, the workmen, and the owner of the building all suffered more or less. Incompetency and false pretense in all trades and professions should be steadily discouraged; and the only way to put an effectual check upon them is to give the preference invariably to the trained workman, who has earned and can rightfully wear the title he claims.

What Will Come of the Labor Troubles.

DEFINITE and excellent results will come out of the chaos of strikes and violence and the accompanying discussions. Experience is a thorough teacher.

The first result will be the cutting loose of respectable workmen from association with the anarchists. They see with consternation the hideous purposes of these social bandits, and are hastening to denounce them. The manifesto of the Chicago Knights of Labor has the right ring.

A second result will be an end of strikes and boycotts to force non-union men out of employment. The utter collapse of the great St. Louis strike and of the Third Avenue strike in New York, and the multiplying arrests of boycotters for conspiracy, settle that question. If men want to strike on their own account, they can do it; but by the same measure that their right to quit work is defended, the right of other men to earn a living by any employment that is offered them will be defended also, and at any necessary cost.

A third result will be a little longer in coming, but it will come. American workmen will learn the lesson which a majority of British workmen learned several years ago, that the only successful strike is the one that never occurs. The waste of strikes has become so enormous that the imagination can scarcely picture it. It has become a chief factor in trade depression, and, as such, a prime cause of low wages. The only way to raise wages is by keeping at work, respectfully presenting the demand for an increase, and abiding loyally by the decision of conference or arbitration, holding the strike in reserve as a last and extreme resort.

The present disturbances are deplorable and disastrous, but they will clear the air.—*Ex.*

Book Notices.

OSBORN'S TABLES OF MOMENTS OF INERTIA, AND SQUARES OF RADII OF GYRATION. By Frank C. Osborn, C. E. Is designed to supply partially, at least, a need felt by engineers and draughtsmen engaged in structural works in iron and steel.

DIRECTORY OF ARCHITECTS FOR 1886. By Byan & Co., Holyoke, Mass., and New York. Supplies in main part the names and addresses of architects in the United States, California included.

STEAM HEATING PROBLEMS. Published by the *Sanitary Engineer*, New York. Contains many valuable suggestions, and one hundred and nine illustrations, upon the subject treated. Its authorship is a sufficient guarantee of its value as a book of information upon its subject matter.

Report of Building Improvements for Woodland, Yolo County.

EDITOR CALIFORNIA ARCHITECT: The following statement presents the facts in connection with the building interests in this section for the first six months of each of the years named.

1883.— 26	engagements of all classes.....	value $ 73,350
1884.— 53	" " "	" 135,832
1885.— 91	" " "	" 223,200
1886.—100	" " "	" 147,305

It will be seen by the above that the number of constructions in the six months of 1886, is nine greater than in 1885, but in cost, $75,895 less. G. & SON.

Market Reports.

CORRECTED FOR JULY, 1886.

Pine, Rough	per M feet,	$15 00
" " No. 2	" "	12 00
" " " 2 in lengths	" "	13 00
" " 40 to 50 feet lengths	" "	17 00
" " 50 " 60 " "	" "	18 00
" " Selected	" "	20 00
" " Clear	" "	25 00
" " Fire Wood	" "	8 00
T. & G. Flooring, 1 x 6	" "	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	" "	30 00
" " No. 2	" "	22 00
Stepping	" "	35 00
" No. 2	" "	27 50
Furring, 1 x 2	per lineal foot,	00¾
Redwood, Rough	per M feet,	18 00
" " No. 2	" "	14 00
" Surfaced	" "	30 00
" T. & G. 6 in. 12 ft. and over	" "	28 00
" " " 7 to 11 feet	" "	25 00
" " " under 7 feet	" "	20 00
" Rustic	" "	30 00
" " No. 2	" "	26 00
" T. & G. Beaded, 12 ft. and over	" "	30 00
" " " 7 to 11 ft	" "	25 00
" " " under 7 ft	" "	20 00
" Siding, ½ inch	" "	22 50
Pickets, Fancy	per M,	25 00
" Rough Pointed	"	16 00
" " Square	"	14 00
Battens, ½x3	per lineal foot,	00¾
Shingles	per M,	2 00
Laths, 1¼	"	3 25
" 1½	"	3 75

NAILS—Rates were recently reduced to:—

200 keg lots	2 70
100 keg lots	2 70
Smaller quantities	2 75

PAINTS AND OILS:—

Pioneer and Nevada White Lead, 1,000-lb. lots	6¾
" " " " " less quantities	7
Pioneer White Lead (local factory), 5-ton lots	6½
Cal. Linseed Oil, raw (single bbl. lots)	45
" " " boiled " " "	47½
Turpentine, per gallon	47
BRICK—California Building Description, soft, per 1,000	5 50
" " " red, " "	6 00
" " " hard, " "	7 50

Building Intelligence.

Where owners' names are left blank, it is so done in most instances by special request.

B

Brannan, cor. Langton. Two-story frame.
O.—Thos. Tierney.
A.—D. Salfield.
C.—H. Keenan.
$2,800.

Brannan, cor Ritch. Three-story frame and brick basement.
O.—J. L. Buckman.
A.—H. Geilfuss.
C.—H. Thom Wordhen.
$8,000.

Bush, southeast cor. Octavia. Five two-story frames.
O.—David Samuels.
A.—Copeland & Banks.
C.—Treadwell & Thompson.
$35,300.

Bartlett, nr. Twenty-second. Additions to school house.
O.—City of San Francisco.
A.—Curlett & Cuthbertson.
C.—J. McCann.
$2,500.

Bartlett, cor. Twenty-fourth. Two-story frame, store and flat.
O.—W. Murphy.
Day work.
$2,500.

Baker, bet. Fulton and Grove. One and one-half story frame.
O.—Mrs. Schintz.
C.—G. G. Gillespee.
$2,100.

C

Clay, cor Webster Three-story frame.
O.—B. F. Hardy, M. D.
A.—McDougall & Son.
C.—P. Griffin.
$6,000.

California, bet. Fillmore and Steiner. Two-story brick stable.
O.—A. Boid.
A.—W. F. Smith.
C.—W. H. Fletcher.
$16,000.

California, bet. Cherry and Maple. Two-story frame, Children's Hospital.
O.—Directors of Children's Hospital.
A.—McDougall & Son.
C.—J. A. Leonard.
$13,000.

California, bet. Devisadero and Broderick. Alterations and additions.
O.—M. Mahoney.
Day work.
$600.

Chenery, bet. Thirtieth and Randall. Two-story brick and frame laundry.
O.—L. Darolles.
A.—W. Moosier.
C.—W. Fletcher.
$10,000.

Castro, bet. Eighteenth and Nineteenth. Additions.
O.—T. Trewen.
C.—O. D'Anis.
$2,000.

Castro, bet. Seventeenth and Eighteenth Two-story frame.
O. and B.—H. L. Kofoed.
Day work.
$3,000.

Castro, cor. Beaver. Two-story frame.
O.—— Sanderson.
A.—S. & J. C. Newsom.
C.—J. Rebman.
$3,000.

Church, nr. Market. One-story frame.
O.—J. Magee.
Day work.
$1,200.

D

Devisadero, nr. Sutter. One-story frame.
O. and B.—G. G. Gillespee.
Day work.
$600.

Dolores, bet. Fifteenth and Sixteenth. One and one-half story frame
O.—Mrs. J. De H. Denistou.
A.—J. Gash.
C.—W. E. Cummings.
$2,000.

Duncan, cor. Sanchez. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,200.

Devisadero, nr. Hayes. Two-story and basement frame.
O.—A. B Block.
A.—S. & J. C. Newsom.
C.—Moore Bros.
$4,500.

E

Eleventh, nr. Harrison. Two-story frame.
O.—E Redmond.
A.—P. R. Schmidt.
C.—H. Keenan.
$2,800.

Eighth Avenue, nr. Point Lobos Avenue. One and one-half story frame.
O.—A. & C. B. Abraham.
A.—Townsend & Wyneken.
C.—C. N. Post.
$1,500.

F

Fillmore, nr. Clay. Two-story frame.
O.—Mrs. Frutiger.
A.—C. Kenitzer.
C.—C. Mason.
$5,000.

Fillmore, bet. McAllister and Fulton. Two-story frame.
O.—H. A. Cline.
A.—E. R. Swain.
C.—H. Conrad.
$4,800.

Fulton, cor. Baker. Three one and one-half story frames.
O. and B.—T. H. Day.
Day work.
$4,500.

Fair Oak, bet. Twenty-second and Twenty-third. Two two-story frames.
O.—Mrs. Fogerty.
C.—Jas. Fogerty.
$4,000.

Fifteenth, bet. Valencia and Mission. Additions to church.
O.—Third Congregational Church.
C.—Farrell & Bell.
$10,000.

Folsom, bet. Twenty-fifth and Twenty-sixth. Two-story frame.
O.—W. H. Wiester.
A. Copeland & Banks.
C. Commary & Beardsloe.
$9,000.

Fifth, bet. Harrison and Bryant. Alterations.
O. H. Costa.
A. C. J. I. Devlin.
C. H. Scholter.
$1,295.

Franklin, bet. Washington and Jackson. Two-story frame bas ment and attic.
O.—Wm. Haas.
A.—P. R. Schmidt.
C.—McCann & Riddell.
$18,500.

Folsom, bet. Twenty-fifth and Twenty-sixth. Two-story frame.
O.—H. T. Kellum.
Day work.
$3,500.

Franklin, cor. Jackson. Two-story frame.
O.—W. Martin.
Plumbing and slating contracts let.
$5,200, additional to amount given last month

G

Greenwich, bet. Jones and Leavenworth. Two-story frame.
O.—Mrs. Jane H. Hemenway.
A.—S W. Hemenway.
C.—A. Flood.
$3,800.

Grove, nr. Van Ness Two one-story frames.
O.—I. Harris.
C.—J. H. McKay.
$1,800.

Golden Gate Avenue, bet. Hyde and Larkin. Two-story frame addition.
O.—O'Brien Bros.
C.—H. Keenan.
$1,000.

Guerrero, cor. Eighteenth. Three-story frame.
O.—A. Hayward.
A.—Piercy & Hamilton.
C.—J. B. Gunyear.
$3,800.

Gough, bet. Ellis and O'Farrell. Two-story frame.
O.—H. Lynch
A.—T. J Welch.
C.—W. H. Whickersham.
$7,000.

Geary, bet Gough and Octavia. Two-story frame.
O.—Mrs. C. Callaghan.
A.—C. I. Havens.
C.—F. W. Kern.
$6,500.

Geary, bet. Taylor and Mason. Three-story frame.
O.—C. Afflerbach.
A.—J. Marquis.
C.—S. Hatfield.
$5,000.

Grove, bet. Steiner and Fillmore. Two-story frame.
O.—Mrs. Louisa I. Amos.
A.—S. & J. C. Newsom.
C.—Geo. A. Emburg.
$5,000.

H

Harrison, cor. Park Avenue Additions.
O.—Mrs. H. Hugg.
C.—D. F. McGraw.
$2,000.

Haight, bet. Steiner and Pierce. Two two-story frames.
O.—R. McElroy.
A.—J. Marquis.
C.—M. Murry.
$10,000.

Harrison, cor. Sixth. Three-story frame, four stores and six flats.
O.—Wm Bryan.
A.—H. T. Bestor.
C.—C. H. Ackerson.
$25,000.

Harrison, cor. Rincon Place, Rincon Hill. Additions and alterations.
O.—Baron Von Schroder.
A.—T. J. Welch.
C.—J. Blake.
$16,000.

Hayes, cor. Laguna. Reported last month.
O.—L. M. Fabry.
Carpenter work—H. Mayn.
$8,000 additional to last month's report

Howard, southeast cor. Moss. Three-story frame and brick basement.
O.—J. J. Hintz.
A.—Miller & Armitage.
C.—B. Dryer.
$9,400.

J

Jackson, cor. Pierce. Three-story frame.
O.—A. N. Drown.
A.—Curlett & Cuthbertson.
Plumbing contract let.
$1,500.

Jackson, northwest cor. Pierce. Two and one-half story frame
O. D. W. Loring.
A.—W. F. Smith.
C.—F. W. Kern.
$10,000.

K

Kentucky, nr. Sierra. Two-story frame.
O.—J. Claassen.
A.—D. Salfield.
C.—B. Dryer.
$5,000.

L

Lake, bet. Second and Third Avenue. One and one-half story frame.
O. Mrs. M. Uhrig.
C.—S. Hatfield.
$1,800.

Lily Avenue, bet. Gough and Octavia Additions.
O. F. & B. Bernon.
A.—Townsend & Wyneken.
C. J. T. O'Brien.
$500.

M

McAllister, cor. Broderick. Four two-story frames.
O. A. Drucker.
A.—J. M. Curtis.
C. J. W. Wessenger.
$10,300.

Merchant, cor. Battery. Alterations.
O.—Hilderbrand & Posner.
A.—J. J & T. D. Newsom.
C.—H. Bray.
$3,200.

Mission, bet. Twentieth and Twenty-first. Three-story frame.
O.—Wm. McCafferty.
A.—A. J. Barnett.
C.—A. G. Fitzpatrick.
$10,500.

Market, cor. Franklin. Additional contracts.
O.—John Nightingale.

Glass—F. H. Rosenbaum,	$2,525
Sidewalk lights—Mahoney Bros.,	2,469
Sheet metal Jos. Forderer,	1,625
Painting— — Smith,	2,200
Total	$8,819

Mission, bet. Third and Fourth. This building reported last month; four-story brick.
O.—H. Meese.
A.—Miller & Armitage.
Iron work, plumbing, etc.
$3,000.

O

Oak, bet. Gough and Octavia. Alterations.
O.—F. & B. Bernon.
A.—Townsend & Wyneken.
C.—J. T. O'Brien.
$1,000.

P

Pacific, bet. Webster and Fillmore. Two-story frame.
O.—G. H. Hooks.
A.—G. A. Bordwell.
C.—Ingerson & Gore.
$3,500.

Pacific, nr Mason. Additions.
O.—H. Williams.
Day work.
$1,200.

Pacific, cor. East. Two-story frame.
O.—A. Vollmer.
A.—W. H. Wharff.
C.— — Tarr.
$2,000.

Point Lobos Avenue, bet Eighth and Ninth Avenues. One-story frame.
O.—C. S. Nathan.
C.—C. Sanborn.
$2,000.

Pine, bet. Broderick and Baker. One and one-half story frame.
O.—H. Weizer.
C.—T. V. Steinmann.
$2,200.

Post, bet. Pierce and Scott. Two-story frame.
O. and B.—J. C. Wier.
Day work.
$6,500.

P Street, nr. Thirteenth Avenue, South San Francisco. Two one-story frames.
O.—D. O'Leary.
A.—J. H. Humphreys.
C.—F. P. Heald.
$2,000.

Pine, bet. Polk and Van Ness. Alterations.
O. and B.—O. S. Warriner.
A.—W. H. Wharff.
Day work.
$1,500.

Park Avenue Road. One and one-half story frame.
O.—Frank Loane.
A.—Pissis & Moore.
C.—Moore Bros.
$2,500.

S

Sutter, cor. Jones. Six-story frame and brick basement. Family hotel.
O.—A. Baker.
A.—J. H. Littlefield.

Carpenter—R. Smith,	$91,500
Brick work and excavating—Pierce & Burnett,	9,800
Plumbing—Sweeney & Kearns,	17,777
Plastering and deafening—C. Dunlop,	16,000
Painting—Jos. Larsen,	7,930
Patent chimneys—L. E. Clawson,	5,800
Cost,	$148,807

Sutter, bet. Kearny and Dupont. Additions and alterations.
O.—A. Hayward.
A.—Percy & Hamilton.

C. W. Hall,	$19,300
Brick work—J. McCarthy,	6,948
Total cost,	$50,000

Seventeenth, bet. Valencia and Guerrero. Two-story frame. Two flats.
O.—Mrs. Matilda Hunt.
A.—E. John.
C.—J. Klien.
$3,750.

Sutter, cor. Franklin. Alterations.
O.—M. Brown.
A.—P. R. Schmidt.
C. Degan & Orford.
$2,200.

Shotwell, bet. Twenty-fifth and Twenty-sixth. One-story frame.
O and B.—C. O. Smith.
Day work.
$2,000.

Steiner, nr. Oak. Two-story frame.
O.—Mrs. M. G. Day.
A.—S. & J. C. Newsom.
C. J. Rebman.
$4,000.

Stevenson, nr. Twentieth. One-story cottage.
O.—M. Bluerson.
A.—Geo. E. Voelkel.
Day work.
$1,600.

T

Taylor, cor. O'Farrell. Additional contract, for extra story, on report of last month.
O.—L. M. Starr.
C.—D. B. Spangler.
$5,000.

Twenty-fifth, cor. Bartlett. Alterations and additions.
O.—United Workmen Co-operative Boot and Shoe Factory
A.—M. J. Welch
C.—Jas. Ross.
$2,000.

Twenty-fourth, bet. Howard and Shotwell. Two-story frame.
O.—J. F. Reilly.
A.—M. J. Welch.
C.—Cremer & Bassett.
$2,850.

Twentieth, bet. Valencia and Guerrero. Two-story frame.
O.—A. Meyers.
A.—J. T. Kidd.
C.—J. Bruce.
$4,500.

Turk, bet. Laguna and Buchanan. Three two-story frames.
O.—M. Kalinsky.
A.—C. I. Havens.
C.—Cremer & Bassett.
$8,000.

Turk, bet. Laguna and Buchanan. Two-story frame.
O.—Mrs. Esther Kalinsky.
A.—C. I. Havens.
C.—Cremer & Bassett.
$4,000.

Turk, cor. Pierce. Two-story frame.
O. and B.—J. Doherty.
Day work.
$4,000.

V

Valencia, nr. Twenty-second. Three two-story frames.
O.—B. Curtaz.
A.—H Geilfuss.
C.—A. Miller.
Brickwork—J. Haff.
$14,000.

Valencia, nr. Twentieth. Additions.
O.—F. G. Norman.
A.—G. A. Bordwell.
C.—Jos. Dutton.
$2,000.

Van Ness, cor. Grove. Two one-story frames.
O.—J. Harris.
C.—J. H. McKay.
$1,800.

Valencia, nr. Twenty-third. Alterations and additions.
O.—W. A. Vondernienburg.
A.—M. J. Welch.
C.—Theo. Von Bostel.
$2,800.

Washington, bet. Webster and Fillmore. Two-story frame.
O.—Miss Lee.
C.—Soule Bros.
$2,000.

Webster, nr. Fell. Two one-story frames.
O.—J. Carroll.
A.—J. J. Clark.
C.—Doyle & Son.
$2,800.

Washington, bet. Polk and Van Ness Two-story frame and brick basement.
O.—H. W. Hyman.
A.—P. R. Schmidt.
C.—K. Sent.
$11,500.

MISCELLANEOUS.

Oakland—One-story brick. O., A. Michel; A. and B., W. H. Wharff; day work; $3,0 0. Cor. Brush and Thirteenth. Two-story frame. O., A. Rowe; A., J. J. & T. D. Newsom; C., Knight & Littlefield; $7,500.

Gilroy—One-story frame. O., R. Graef; A., Jacob Lenzen & Son; C., J. J. Dorland; $2,200.

Niles Station—One-story frame. O., California Nursery Co.; A., Jacob Lenzen & Son; C., J. D. Egan; $1,550.

San Jose—East side First bet. San Fernando and San Antonio. O., E. Auzerais; A., Theodore Lenzen; C., Thos. Livingston; cost, $14,000—instead of $1,400, as reported last month. East side Market bet. Santa Clara and St. Johns. Two-story brick. O., G. Promis; A., Theodore Lenzen; C., R. Summers; $6,500. South side Santa Clara bet. Orchard and Vine. Two-story frame. O., Mrs. E. Buhot; A., Theodore Lenzen; C., J. McIlvain; cost, $1,500.

Healdsburg—Methodist Episcopal Church. A., T. J. Welch; day work; $15,000.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

The following are a few of the owners who have adopted the HILL BLIND in preference to any other:

U. S. Government, four sets officers' quarters, Presidio Res., S. F.; H. F. Bruns, cor. Geary and Taylor, S. F.; J. C. Weir, Post, near Scott, S. F.; John MacKenzie, cor. Grove and Broderick, S. F.; L. H. Sweeney, San Rafael; R. B. Gray, cor. Pacific and Van Ness, S. F.; Raymond Hotel, 1,600 windows, Pasadena, Cal.

ENGLISH AND AMERICAN VENETIAN BLINDS

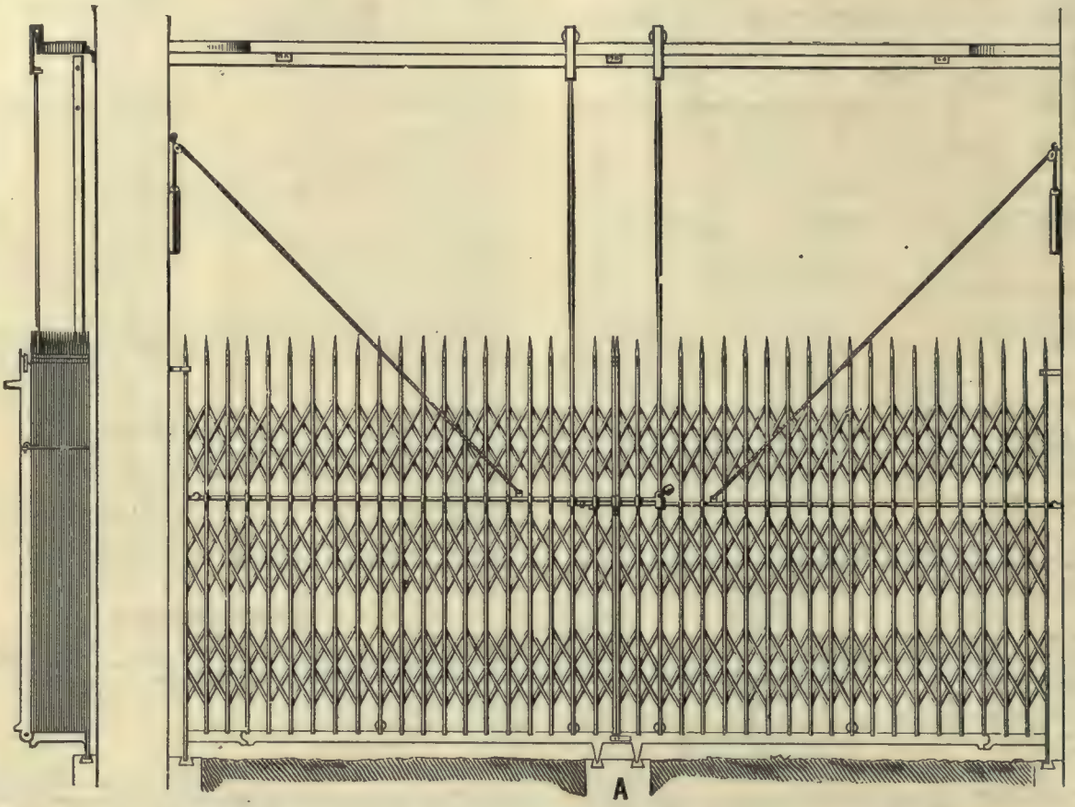
IMPROVED.

The only Perfect Venetian Blind in the market. For samples, prices and information, address,

EDWARD B. HINDES, Agent, 330 Pine St., Room 55.

Folding Gate and Guard Company.

These Gates and Guards are manufactured to order in San Francisco, to fit and fill openings as desired. Descriptive Catalogues and Price List furnished.



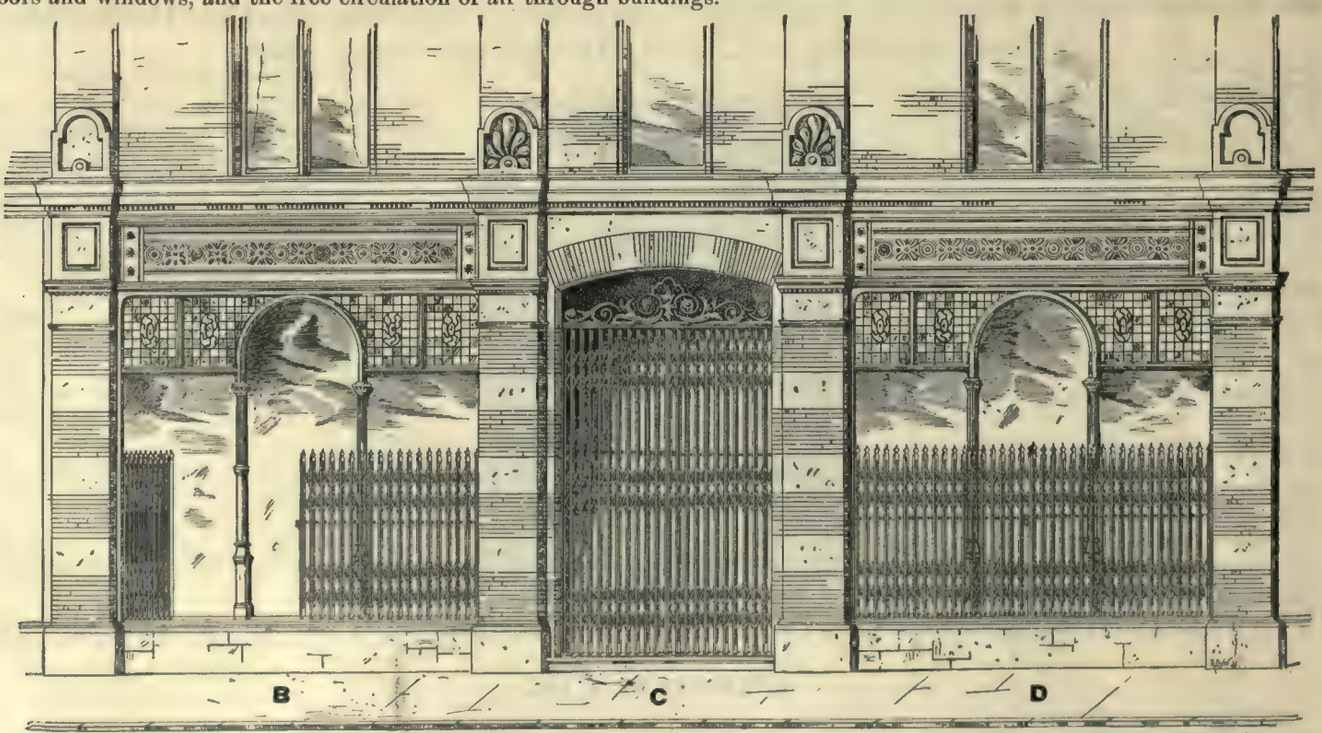
ABSOLUTE SATISFACTION GUARANTEED.—They are easily handled and adjusted, and are the most perfect device in use for the purposes for which they are intended.

Protect Your Homes and Business Houses

WITH ❋ THE ❋ IRON ❋ FOLDING ❋ GATES ❋ AND ❋ GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against **Burglars, Thieves, Tramps and Designing Persons,** and can be removed and replaced without unhinging. As a **Sanitary Device** they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.



DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

GEO. H. RICE, President.

E. J. ROBINSON, Agent, 109 California Street, San Francisco, Cal.

J. P. LECOUNT, Secretary.

Hardware AND Builders' Materials

IMPORTERS, WHOLESALE AND RETAIL DEALERS.

A FULL LINE OF

Messrs. P. & F. Corbin's Gold and Silver-Plated, Light and Dark Shades of Plain Antique and Tuscan Bronze, House Trimmings.

ALSO, A FULL LINE OF

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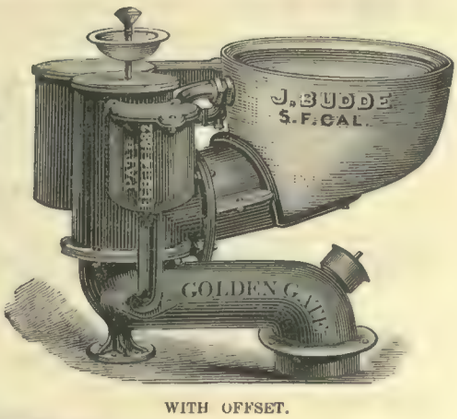

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This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

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THE COMBINATION HOPPER.

Side View, Combination Hopper.

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the eft and a 4-inch leader in the center. It has also a movable strainer on top to take the sur face water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

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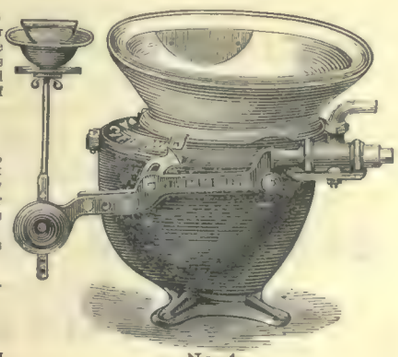

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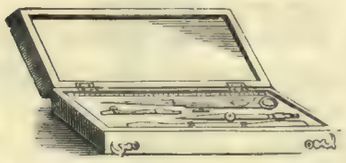

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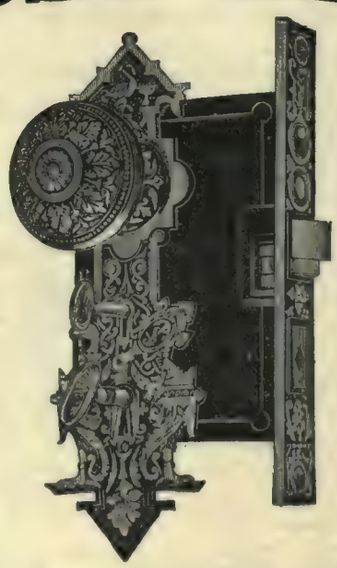

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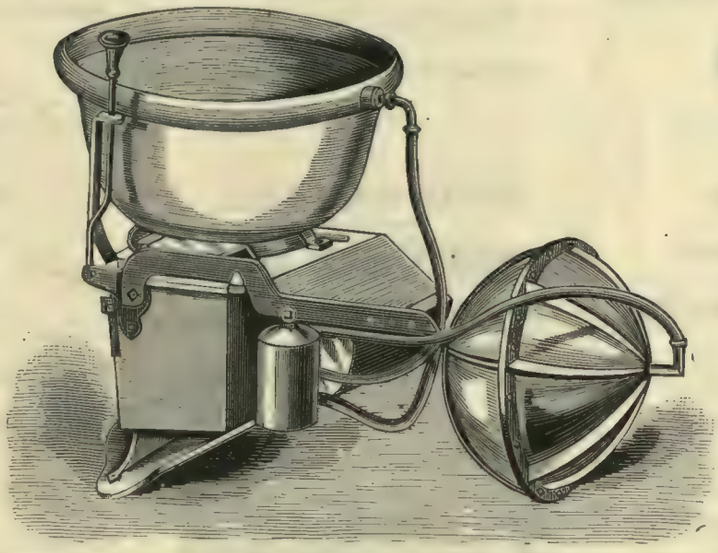

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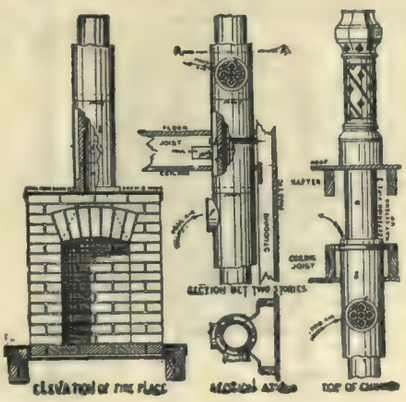

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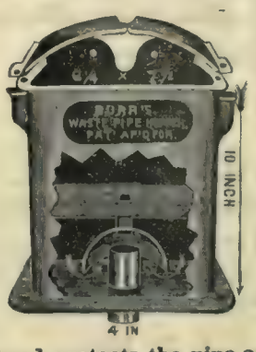

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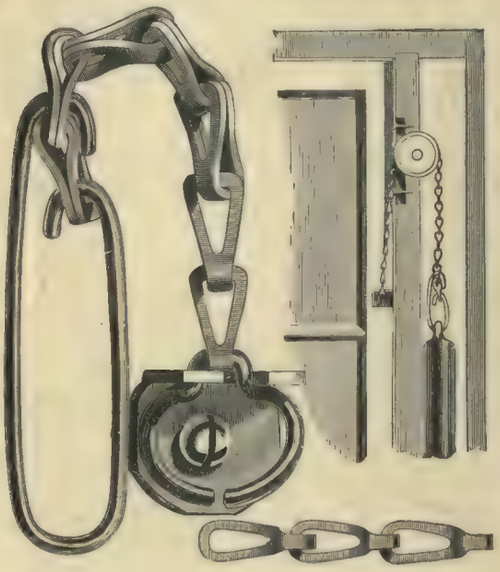

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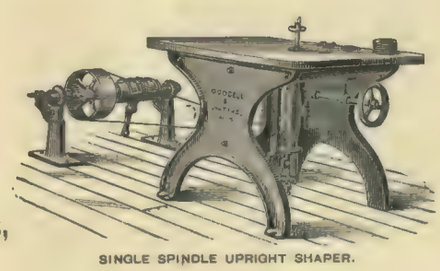

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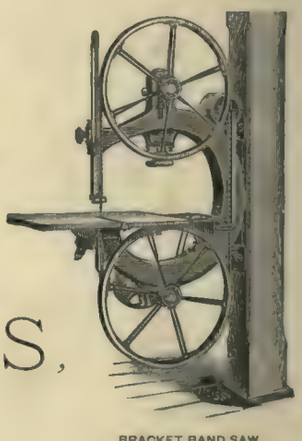

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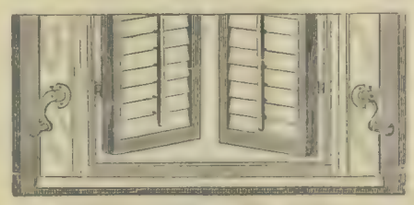

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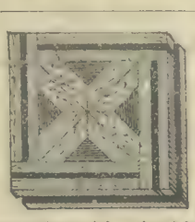

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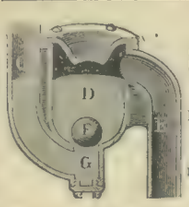

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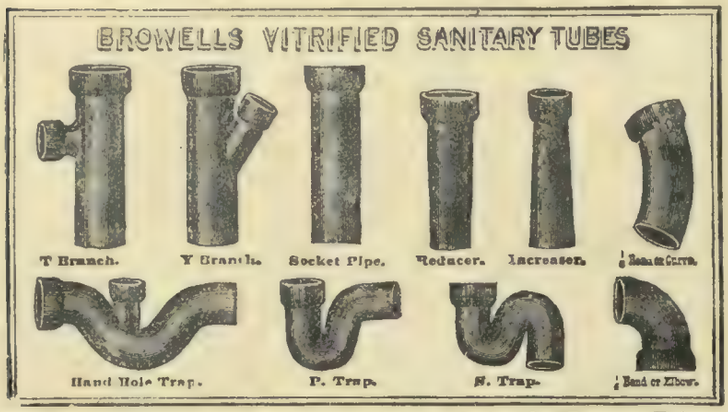

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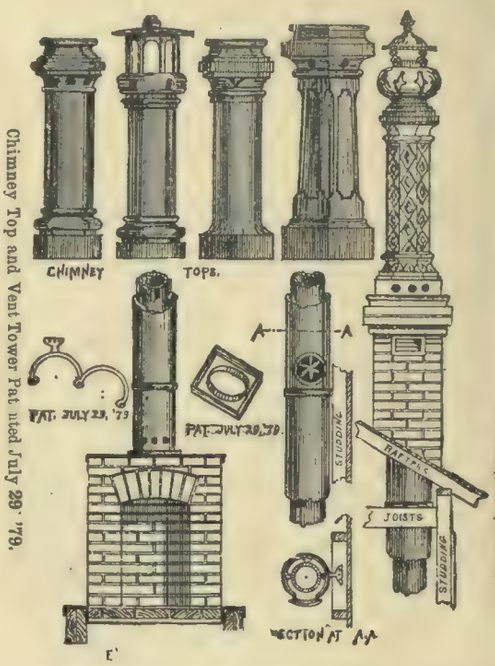

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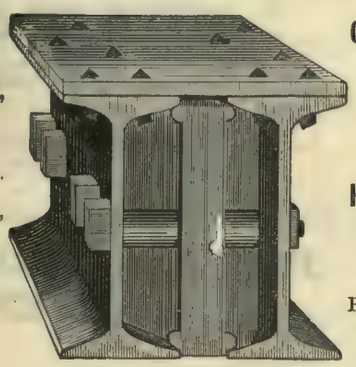

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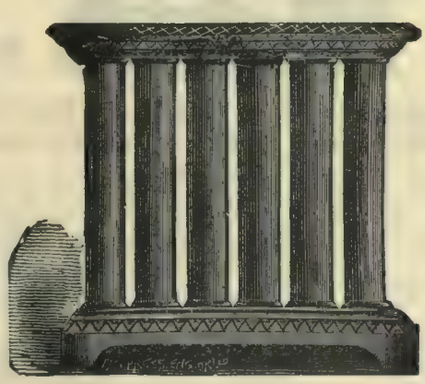

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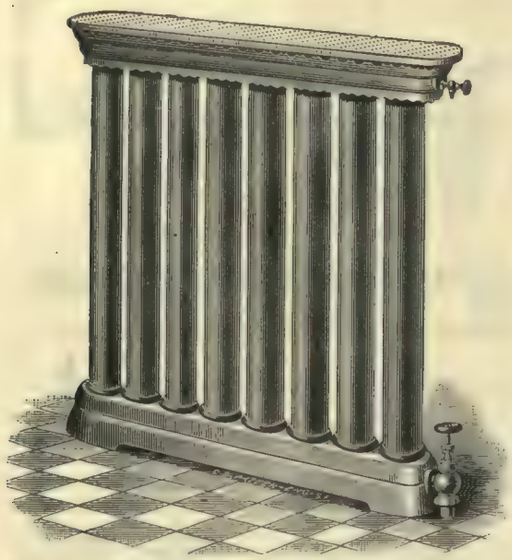

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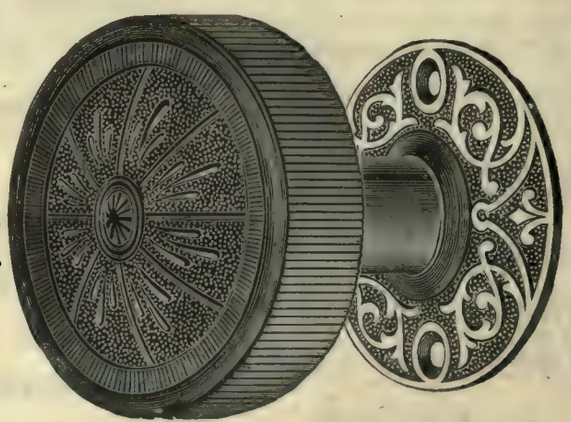

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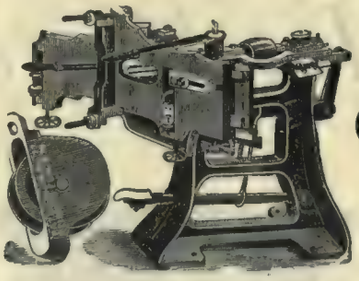

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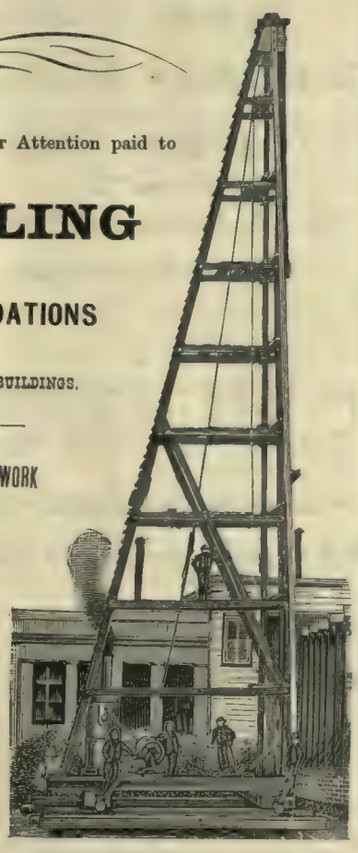

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THE

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Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., AUGUST 10, 1886.

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Building Summary.

AS will be noticed by our monthly report, the number of contracts let since our last issue is considerably less than those for the similar period of 1885. How far the G. A. R. Encampment may have contributed to this result, is a matter of conjecture. One thing is certain, that the encampment business engrossed the attention of a large number of our citizens, and business generally was greatly affected by it.

REPORT FOR AUGUST, 1886.

64 frame buildings, value	$376,431
8 alterations and additions, value	12,950
72, total number of engagements, total value	389,381

REPORTED IN AUGUST, 1885.

95 engagements of the value of	395,150
August report, 1886, less than 1885	5,769

The Offered Sale of This Journal.

SINCE the first announcement in its pages that the entire interests of this journal would be disposed of to competent parties, a great many personal inquiries have been made, and propositions submitted and declined.

A sale contingent upon certain stipulations might have been made a month ago, but as we propose an *unconditional surrender* of the situation, we shall *hold the fort* until a competent *commander-in-chief* shall arrive, with satisfactory *financial credentials.*

Negotiations now pending with parties and firms east of the Rocky Mountains, may result in a full change of management by the first of January next, if not sooner. In the meantime the journal will be continued as heretofore to the best of our overburdened abilities.

A GENERAL EXPLANATION.

Those who have made inquiry by letter, and personally, have asked for all the facts of the case, and what will be included in the sale.

As a general answer, we state: A sale will include every interest of the publication,—its good-will, subscription list and advertising patronage, office appointments, desk, bound volumes and back numbers since 1879, outstanding accounts due from all sources, five hundred copies, more or less, architectural, mechanical, and other publications (optional), and all else pertaining to the publication and circulation of the journal.

We state, in answer to the question repeatedly asked by correspondents, in reference to

COMPOSING ROOM AND PRESSES,

That there are none. The journal has been conducted *incidentally* in connection with our architectural pursuits, and printed and bound ready for distribution by contract.

But with these limited facilities and restricted advantages, and personal attention divided between two great interests—editor and manager, and practicing architect—each demanding our whole time and energies, we have continued our publication work for eight years (less four months) with a profit to ourselves, making a most enviable reputation for the journal, as evidenced by the hundreds of complimentary notices from time to time published by technical, class, and other journals, and preparing the way for some one to continue its publication with great success and profit.

G. A. R.

THE Twentieth Annual Encampment of the Grand Army of the Republic, held in San Francisco, has been a grand affair, meeting the highest expectations of the home guards, the citizens of the Pacific Coast, and the visiting host from all quarters of the United States.

But our daily contemporaries of this city have so fully and elaborately chronicled all matters pertaining to this great and ever-to-be-remembered gathering of patriotic men and women, that anything on our part, more than a mere notice of the event, is unnecessary.

One remarkable feature, however, is worthy of special mention; that while the number of men, women, and children moving to and fro through the streets of San Francisco, entering and leaving the city by trains and ferries during the period of the encampment, aggregated hundreds of thousands, approximating 2,000,000 persons, not a single accident to life or limb has occurred in connection therewith.

Aggregating the number of trips of street-cars during each day, from 3,000 to 4,000 cars were moved daily, or for the week, some 25,000 to 30,000 trips on all the lines—perhaps more—yet the accidents reported in this connection do not reach the average of such happenings during ordinary times. This is the more remarkable in view of the fact that Market Street was "swarmed all day long" with the living masses, and parts of each day hundreds of cars passing a given point each hour; while at the Pavilion, on several occasions, the Larkin street-cars were run through surging crowds, and at the park terminus, frequently from one to two thousand people at the same moment transferring to and from cable to steam-cars, or in and out through the entrances to the park. Yet under all those risky conditions, the week passed without leaving any sad and mournful monument of sorrow to mar the pleasures which seemed to flow in all directions.

The Circus Style.

CIRCUS in this sense—that a circus is a place that offers to the public a variety of funny things, as well as a few instructive and pleasing features, and the more really funny the entertainment, the better it draws, consistency being but incidental in its make-up.

In this view of the case—true merit and pure architectural rules and principles aside—the numerous clownish structures erected in San Francisco and elsewhere, are so thoroughly funny in general appearance, effect, and detail, that every intelligent architect or competent architectural critic can but laugh at the endless contortions, distortions, ill proportions and abominations set up to public gaze, and the whim of prevailing taste with those who seek and accept these structural mal-formations, are something astonishing.

The modern idea of house-designing, in the hands of competent and artistic architects, has, in some cases, evolved neat and pretty delineations. But the liberties possible under the false guise of Eastlake have also made it possible for consummate pretenders to operate, and conceal and disguise their ignorance of true principles, and practice their abominations under the pretext of a fancy name, used to excuse error, and gull clients to accept ignorance and incompetency as a style of architecture.

There can be no objection to any neat, consistent, and meritorious departure from the old order, in which symmetry, proportion and good taste has been respected and blended. The progressive age in which we live, not only commends but invites inovation upon the forms and features which have held the world subjugated to the creations of the ancients. Beautiful and to be admired, the grand old structures the world over stand as exemplifications of that depth of conception which evolved the classic orders, and will so stand until the curtain of time is rung down at the close of all human existencies, and the consuming flames lick up every vestige of human thought, and crumble into ashes the last evidence of human—architectural—skill, if such an event shall ever transpire.

But in architecture, time must work, and has worked, changes, and those possessing true merit and excellence will become renowned and admired, and be placed side by side with those of the early ages; but the nondescripts passed off under the name of Eastlake—meaning any structural abomination, however erroneous, as well as those of modest neatness and pleasing appearance—can exist only as remembrances of the freaks of fancy of the period, to be looked upon in future years as most singular exhibitions of the reckless corruptions tolerated in the latter periods of the nineteenth century.

This is none too severe criticism, as much that is now practiced is defenseless upon any hypothesis of refined ethics, good taste, convenience, or consistent form, and in details innumerable, fearfully at variance with rational comparison with anything in true art or nature, and inclining in harshness and hideousness in general effect, to structures among barbarous races, or the semi-civilized and idolatrous nations.

In many of the examples the ill-shaped lines and inconsistencies are positively repulsive to the eye of those who have studied the beautiful from forms, as handed down to present generations through successive ages; yet there is at the present time a too general disposition to favor extravagancies in house designing, as in all other things, and to recognize as good the wildest imaginations and concepts of men, who in the attempted pursuit of classic architecture would fall to the deepest depths of obscurity.

Life of Cast-Iron Pipes.

THE fact is well sustained that the wear, by rust, in uncoated cast-iron pipe exposed to the action of clean, fresh water on both sides, is not more than one-eighth of an inch in three generations. With the present method of protecting such pipe with asphaltum, the life of the ordinary cast-iron pipe, used in building construction, may be greatly prolonged; indeed, even an ordinary coating of coal-tar pitch, when properly applied, is sufficient to add at least a score or two of years to its durability. The life of a soil pipe, even when quite thin and uncoated, has been found, by experience to be so great that it is not unreasonable to suppose that the greasy matter contained in sewage serves to coat and protect the iron from the corrosive action of the water and the acid components of the sewage.

The defects and leakages more generally met with in such pipes, are caused by the defective manner in which the joints are made, and improper placing and securing. Materials and devices used in buildings are often made to bear the faults of bad workmanship, and frequently "tearing to pieces" is done under the presumption that the things torn out are worthless, or not good, while the real difficulty lies in the defective handling and fitting.

Copper Boiler Explosion.

THE explosion of a copper boiler, in the kitchen of the Winchester House, in this city since our last issue, by which human life was jeopardized, and property damaged to the value of nearly $2,000, was an occurrence of infrequent happening.

The possible explosion or collapsing of copper boilers connecting with ranges or stoves, is a matter well understood among plumbers and competent architects, and as a rule, precautions in the shape of tanks and steam pipes are applied in all such cases, and when sufficient and properly connected, there can be but little danger of either collapsing or explosion, even if the sheet metal of the boiler is light. Consequently the fact that a copper boiler did explode in the kitchen of the house named, is *prima facia* evidence that the vent—the "steam pipe,"—was too small, was trapped, or choked by corrosion or otherwise. To produce an explosion by steam, the vapor must be confined and accumulate until its force becomes greater than the resistance afforded by the vessel or chamber in which it is bound. An insufficiency of water alone would not cause an explosion in any case where a vent was applied capable of carrying off all excess of power in the steam beyond the strength of the holder. Hence it is fair to conclude that the cause of the explosion was the absence or obstructed condition of such proper vent or escape. There might have been but a fractional part of the quantity of water required to fill the boiler, and no explosion occurred, if there had been a sufficient escape for the steam produced by the water passing through the water-back. The boiler may have been constructed of light material, but that fact alone would not have been sufficient to produce the explosion, if the precaution against the result had been free and of sufficient size.

The fact that the boiler was thrown to a great height, and the building construction in which the accident happened demolished, proves that there was a considerable accumulation of steam in the boiler, and that it was so bound as to obtain a force beyond the resisting and retaining capacity of the shell in which it was held.

The lesson to be drawn from the case under review is, that vent pipes of sufficient capacity to boilers are most important and necessary adjuncts, and that they should be kept free from corrosion or stoppage of any kind.

A second lesson suggests itself to manufacturers of boilers, and plumbers, not to make or use those of thin metal. Had the boiler in question been a little heavier, say five dollars' worth more of copper in the weight of the sheet-metal, the accident would not have occurred just when it did, and might not have happened at all. The repeated and frequent draining of water for dish-washing and kitchen purposes, after meals, the time when the explosion in question occurred—just after breakfast—when the fire in the range was less than it had been in cooking the meal, clearly indicates that there was a chokage in the vent pipe, terminating as stated, in the explosion of the boiler, loss of a sum in damages to property sufficient to build a neat little homestead for a family, and the severe scalding of one of the helps, and some injury to others.

Staining Marble.—The art of staining marbles in a permanent manner has long been lost, but an American has rediscovered the process or discovered a new one equally effective, so that it is now possible to paint a marble surface with pigments which sink into the substance of the stone to any desired depth and then to polish the surface as highly as before the marble was treated.

Acid Proof Cement.— A cement for resisting sulphuric acid even at boiling heat may be made by melting caoutchouc at a gentle heat and adding, with constant stirring, from six to eight per cent of tallow. Then mix therewith enough dry slaked lime to make the whole the consistency of soft paste; finally, add thereto about twenty per cent of red lead, whereby the mass immediately sets hard and dry. A solution of caoutchouc in twice its weight of linseed oil, aided by heating, and the addition of an equal weight of pipe-clay, yields a plastic mass which will likewise resist most acids.

Shining Black Ink.—The best shining black ink, used for mourning paper, and the manufacture of which has up to the present time been kept a secret by the makers, may be prepared, according to the *Papier Zeitung*, of lamp-black, borax, and shellac. The ink is made as follows: In one liter of hot water sixty grams of borax are dissolved, and to this solution three times the quantity of shellac is added. After this mixture has been properly dissolved, the necessary quantity of lamp-black is added, the whole thing being constantly stirred. Should the luster not be satisfactory, more shellac is added.

Every Mechanic Should Paste This Page on the Inside of His Chest Lid.

In 1881 a series of articles on the "Steel Square and Its Uses" was commenced in this journal. They were continued until late in 1883, and received with great favor by our mechanics. In June, 1882, we presented the above original design by which mechanics at a glance could, by the shortest possible method, determine the proper bevel necessary to make a figure of any given number of sides. The edition containing the above cut has long been exhausted and we have been opportuned over and over again to reprint the illustration and explanation. Many other articles found in back numbers of the CALIFORNIA ARCHITECT have been inquired for with the request that we republish the same; our rule is always in each number of this journal to furnish to our readers entirely NEW matter and we for the *first time* lay aside our rule and republish the above cut with its explanation.

The above design is an ORIGINAL and very simple illustration by which the mechanic can see at a glance the necessary bevel to be obtained to enable him to make a polygon of any number of sides, by simply using the STEEL SQUARE, no drawings being necessary. With the exception of the triangle, all the bevels used are those formed by the SHORT ARM of the square; the three-side figure being formed by the bevel of the LONG ARM.

But little explanation is necessary to thoroughly understand the cut. If a nonagon is wanted, look for the figure 9 outside of the circle; following the line inside, we find the figures $22\frac{1}{2}$x9. Place your square against the STRAIGHT edge of—say a piece of lattice, using the above figures to form the bevel. Mark bevel on SHORT ARM; cut nine pieces of the same length, with the same bevel; fit the nine pieces together, and you have a nonagon, or polygon of nine sides. Proceed in the same manner with any of the sets of figures given.

By cutting out the above figure, and pasting it on the inside lid of his tool chest, the mechanic will always have handy a guide by which he can easily obtain the bevel of any cut illustrated above.

The lines forming the "crow's feet" at the end of each of the radii, show the direction of the sides necessary to be made to form the figure required, indicated by the number on the outside of the circle.

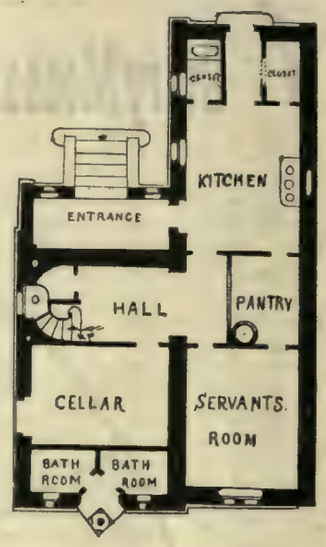
The series of articles on the Steel Square was commenced in the September number, 1881. Bound Volumes containing the same, $2.50.

Floor Plans for a Seaside Cottage.

THE accompanying engraving represents the plans for a building to be erected near the sea-shore. One of the first things to be thought of in designing houses to be built near the water is the arranging of the various rooms in such a manner that perfect light and ventilation are secured without the windows being too much exposed to the fury of prevalent storms, or the regular blow of trade-winds. This fact has been carefully kept in view in the plans as presented on this page.

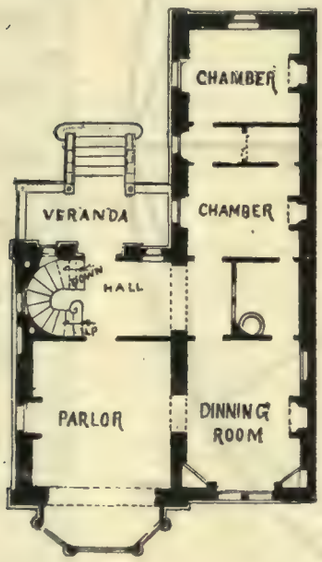
Another fact must be kept in view: Such houses as the one illustrated must be provided with suitable bath and dressing-rooms, handy of access from the beach. By examining our first-floor plan, it will be seen that two such rooms are provided for. They are directly in front of the intended building and can be entered very easily. The front, as shown, faces the sea, the main entrance being in the rear. Following out the suggestion given above, no windows have been placed on one side of the building, thus presenting a blank surface to the fury of the storm which may happen to rage. The plan may be reversed so as to have said wall face any point of the compass and still carry out the general design shown.

The arrangement of the first story will commend itself especially to those who find it inconvenient to have servants around among the living rooms. Ample accommodations are found in this floor for all kitchen work. By the means of a dumb waiter, the meals, after being cooked, can readily be transferred to the dining-room; a large cellar affords ample room for the storing of coal, vegetables, etc., while the servants are provided with a fine front room, with a beautiful room.



FIRST STORY

Via parenthesis, we may remark that one of the principal reasons why servant girls are so hard to keep in one place is the insufficiency of their bedroom accommodations. They are put anywhere, and often sleep in rooms in which the sun never shines. This is radically wrong; servants are hard-working people, and nature demands that they should have proper rest and well-ventilated rooms. There are already too many houses in which the servant's room opens directly out of the kitchen; consequently the room is filled with the smoke and fumes arising from the cooking; the bed clothes, etc., are permeated with the noxious vapors, and when the weary servants retire for the night, they are compelled to breathe the same kind of *greasy* air that is inhaled during the day. The result is a few months' stay in one place and then a change. By all means, ladies, see that your houses are so planned that the servant can have a sunny room.

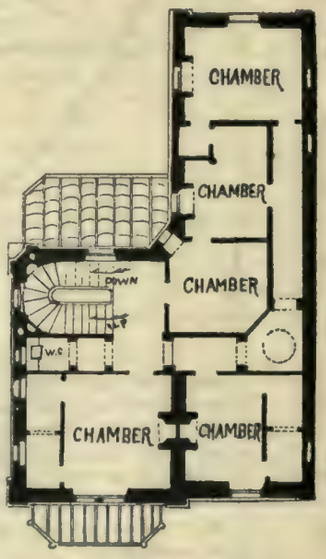


SECOND STORY

Ample bedroom is provided for a family of at least eight persons, and by *doubling up* in the beds, many more can be provided for. Should an attic be wanted, the stairway can be carried up similar to that shown on third-story plan. The rear portion of the attic could be fitted up as an observatory, with the telescope, etc. Children living in such a house could thus be early taught the rudimentary principles of astronomy. The front portion of the attic would make a fine billiard room, leaving ample room between stair hall and observatory for a children's play room.

While the arrangement as shown will not be acceptable to many, it must be remembered that a sea-side cottage is not intended for a permanent residence. Compactness with ample accommodations; every convenience and yet only a moderate outlay of money; these two facts must be well borne in mind when planning a house of the character shown. Being away from a town, no water pipes are indicated, nor gas pipes marked; to those wishing to go to the expense, an artesian well and windmill and pump complete will supply the one, and a gas machine the other.

The front elevation we do not give. This may be varied to suit the tastes of those building. We have only endeavored to present the general plan of the house, leaving it to an architect to supply the balance of the drawing. A house of the character shown can be built in this section of the country for any amount from $5,000 upwards, depending greatly upon the accessibility of the different materials required in its erection.



THIRD STORY

Painting Floors.

NOW that the fashion is more and more prevalent of using carpets th t do not completely cover the area of the floor, and which thus escape distortion by being so cut as to coincide with every angle, recess, or curve of the walls, floor painting should certainly be more generally adopted. Painted borders are all well enough, but the whole area of the floor may be advantageously laid out in color. This painting necessarily involves priming, which, in itself, as applied to floors, is hygienic, as having the effect of closing the pores in which dust lodges, the dust, with its darkening and forbidding effect, never failing to obtain lodgment unless, indeed, the boards should be of costly hardwood, which is the exception, not the rule. It may be said that a floor painted all over will not be seen, but, without replying that a painted border where the whole area is not colored is a deception, we may remark that the entire treatment of a floor or cover affords a security against unsightliness should any portion of the central carpet be accidentally raised, and that in the event of its removal for purposes of cleaning the painted ground suffices, more especially if enriched with a few rugs or tinted or patterned mats.

In the hot summer months a floor artistically painted will be often found preferable to carpet, as aiding in the movement of the air, not harboring dust, and proving on the whole cooler. Paint may be so compounded and laid on floors as to suffer but little injury, even when exposed, in a long course of time. Should the colors become dull, a slight varnishing will suffice to renew much of their pristine freshness. There are many rooms in a house which would be all the better for not being fully carpeted. Such especially are bedrooms. When we speak of painting a floor we do not refer to giving it a uniform hue. The handsome designs carried out in encaustic tiles may be repeated in color. Geometrical figures centered with small leaf patterns are peculiarly appropriate; so, too, a host of fresco patterns, these being varied in successive tiers. Longitudinal lines representing the chromatic scale of colors might be repeated at certain intervals. Diagonal lines in different hues, lying thwart each other, in basket-work style, would have a good effect. The borders, as a matter of course, should be differently treated.

DOVETAILING.

THE art or mechanical science of dovetailing consists in fastening boards or timbers together by letting one piece in the form of a *dove's tail spread*, or wedge reversed, into a corresponding cavity in another, so that it cannot be drawn out. The mere fact that a mechanic can explain what a dovetail is, does not imply that he is therefore fully acquainted with all the mechanical skill necessary to perform the operation required with artistic ability. Practice alone, with a careful attention to details, is the main requisite necessary to perform a neat and accurate joint.

Again the mechanic must study; because he has practiced enough to enable him to make joints hardly discernible to the naked eye, is no reason why he must consider himself as perfect. He must have a thorough conception of the proportion which a piece made to fit into another should have toward that into which it is fitted, so as to produce the greatest strength with the least possible waste of material. He must also know how to proportion a joint so that it shall not fail or give way before another.

It is in the latter particular why so many joints made by the most skillful workmen separate with a trifling strain, or from being bound too tightly together, fly and split in all directions. This is owing to want of study on the part of the mechanic, as he is lacking the information necessary to estimate the strength required to resist the stress on the joint.

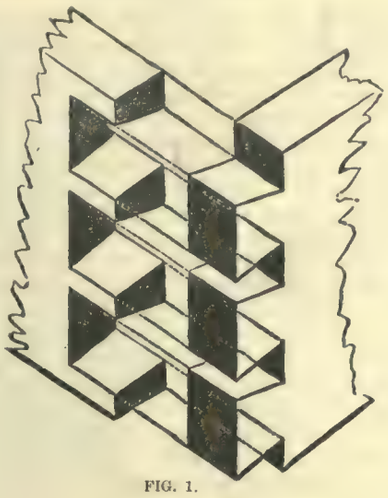


FIG. 1.

In Fig. 1 we represent the common dovetail. The projecting ends are called the *pin* of the dovetail, and the aperture into which this pin is fitted is called the *socket*. The form shown is the strongest of all the various patterns, and is used in tool chests, backs of drawers, and in places generally where strength is considered of more utility than beauty. In laying out the dovetail, it is best to allow the pin to be a little long, so that after the work has been put together, the projections can be smoothed off with the plane, thus making a clean surface.

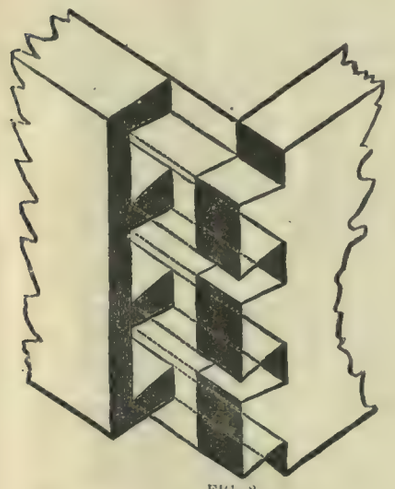


FIG. 2.

The strength of the joint depends on the *form* of the dovetail, as well as on the proportion it bears to the parts cut away. No absolute rule can be given for the bevel of the *pin;* in ordinary work an angle equal to about 75° or 80° is that usually employed. To those who do not understand how to obtain the angle required, we would say, take a pair of compasses and scribe a circle; draw two diameters at exactly right angles to each other; the arc of the circle will thus be divided into four parts, each equal to 90°; divide the arc of one of these sections into five equal parts; draw a line from the center of circle to the point nearest the perpendicular; this line in relation to the diameter will give the bevel necessary for the *pin* of the dovetail.

Young mechanics are apt to allow too great a bevel for the *pin*. This fault must be carefully guarded against. Too much of a bevel decidedly weakens the joint. The best rule to go by is to study the nature of the wood, and give as little bevel as possible and still prevent the possibility of the pieces pulling apart. Hard or tough wood admits of much greater bevel than redwood or pine.

Fig. 2 represents the *lapped* dovetail. In this form the ends of the dovetail show on one side of the angle only, and is generally used in the front of drawers in cabinets, bureaus, etc., where the side cannot be seen unless the drawers are opened.

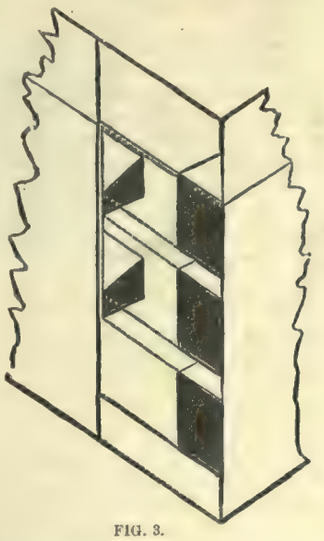


FIG. 3.

Fig. 3 represents the *mitred* or *secret* dovetail. In this the dovetails are not seen at all. While, admittedly, this is the weakest form of all the various patterns, still it is very useful where neatness is required, and is generally employed in making fine boxes, etc., for the parlor or library.

As represented in Fig. 4, a tenon may be held tight in a mortise, by framing the latter in the shape of a dovetail, and *fox-tail wedging* the tenon into it; this is done by four thin wedges into and projecting from the end of the tenon, so that on coming in contact with the bottom of the mortise hole, they may be driven into the tenon and enlarge it sufficiently to fill up the dovetailed mortise. Care must be taken to so arrange the wedges that the two outer ones may be driven first, and then the inner ones; by this means only thin pieces of the tenon are split and turned outwards at a time, thus avoiding the risk of splitting the tenon beyond the shoulder, which might occur if fewer and thicker wedges were used. Light blows should be given at first so as to cause the tenon to gradually split.

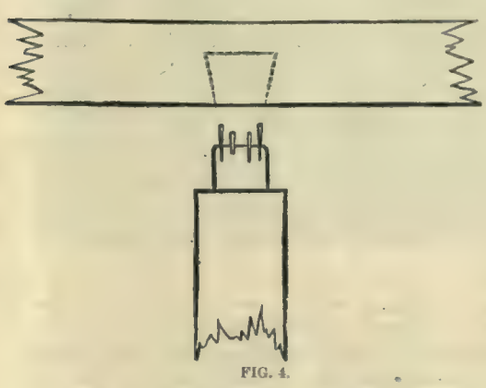


FIG. 4.

The mechanic must have his tools in perfect order. Only dull instruments as well as tools slip over work. If the edges are keen, they will *grab* hold of the wood as if eager to do their part. In fine work it is absolutely essential that the tools be in perfect condition, as a slip of the plane or saw may cause damage which cannot be easily repaired.

Scribing.

SCRIBING is the operation by which a piece of wood-work is made to fit against an irregular surface. Thus, for instance, the base-board of a room, by scribing, is made to meet the unevenness of the floor. To determine just the amount of wood necessary to be removed, take a pair of compasses and open them to a width equal to the greatest distance or space between the base-board and the floor. Having *set* the compass, draw them along the floor so that a mark will be scribed in the board, corresponding to the bumps on the floor. Cut the wood away according to this line, and on refitting the board, a good joint will have been obtained.

A CURIOUS flower was recently discovered on the Isthmus of Tehuantepec, Mexico. It has a faculty of changing its color during the day. It grows on a tree. Another peculiarity of this floral chameleon is that it only gives out perfume at noontime. One of the strangest things about this flower, however, is that it should be found in Mexico when its colors are those of the United States flag. In the morning it is white; at noon it changes to red, and at night it adopts a soft blue color.

American Institute of Architects.

We have received a copy of the proceedings of the Institute at its nineteenth annual session, 1886, containing also an expressive likeness of the first president of the Institute (deceased), Richard Upjohn.

The address of welcome was delivered by Dr. Thomas A. Atchinson, which was responded to by Mr. Kendall, in which the following occurs: "Additional associations for the furtherance of professional interests have been formed under most favorable auspices, and we must feel especial gratification in the increased facilities for the study of architecture, which are offered by the Institute of Technology, in Boston; by Architectural Department of the School of Mines of Columbia College, in New York; by the Illinois Industrial University, at Champaign, and by other institutions of learning in various parts of the country, so that the student in America can now obtain a professional training, which will be of greater practical value to him than the architectural courses of Paris, Vienna, or Berlin."

The addresses, containing many interesting references, were listened to with deep attention, and received hearty applause from members and guests. The following extracts from the proceedings indicate the spirit and feelings actuating our professional brethren—members of the Institute:—

"It would seem desirable that some effort be made to bring about a closer union and relationship between the architectural associations of this country. To this end it seems but proper that some advance be made by the American Institute of Architects, as the oldest organization of architects on the continent. As a means to that end, it would seem desirable that this Convention take some action looking to a representation through a regularly appointed delegate at all conventions of architectural societies throughout the Union, and that such societies be requested to send each a delegate to all conventions of the A. I. A."

San Francisco Chapter is duly noticed in the report of proceedings.

Matters relating to supervising architects to public works, compensation, competitive plans, etc., were considered.

A "Bill to establish the office of Commissioner of Architecture, and a Board of Public Biddings, and for other purposes," was presented by the committee previously appointed to prepare such a bill, in which among other things occurs:—

"Section 27.—That any contractor who shall construct the building on which he is engaged in a different way from that prescribed in the plans and specifications, or who shall supply different or inferior material from that called for in the specifications, or who shall cause the work to be done in a manner different from that called for in the specifications, or in his contract, except as provided for in this act, shall, on conviction of such offense, be fined in any sum *not less* than five hundred dollars."

Reference is made to the following "words of our first president, Richard Upjohn, spoken at the convention of 1867. After sketching the early struggles and history of the Institute, Mr. Upjohn said further: 'It is the duty of every one of its members to throw the full force of his abilities and influence, so far as the demands of his first duties toward himself and his dependents will permit, into combined effort to make the Institute attain its object, and realize its noble ideal. If we do so, if we show that we respect our work, and ourselves as its doers, that we know what we mean, and mean to do it, so far as our providential opportunities will permit, if we make what we have done apparent, and show that we have well laid out our plans for the future, and have the men, the intellect, and the culture to carry them out well, we shall find that Providence will not fail us, but will, through the medium of outside co-operations, supply us according to our need and progress with the material means requisite to make our mental capital available.'

"Eighteen years have passed since these words were spoken. The Institute has developed and grown strong under its federal system of united chapters. A bright and useful future seems to be open before us; the art of architecture is more appreciated, and the practical science of building is more generally and better understood. To be members of the American Institute of Architects should be our pride, and an attendance upon its annual conventions a journey of pleasure and profit to all fellows and associates."

The many reports of committees, and speeches by able representatives of the profession, contain a large amount of instruction, and furnish data and facts of great value to those earnest in desires to improve themselves in the practice of a profession time-honored and noble, yet ever challenging the best efforts of the human mind to keep pace with its unfoldings, and ever furnishing new bases of thought, and revealing new beauties through each succeeding generation.

The suggestion expressed, that every chapter in the United States should be represented at the annual councils of the grand body, is a good one, and honored, indeed, will be the man who shall be the first from California to represent San Francisco Chapter and the architectural profession upon the Pacific Coast.

Technical Terms.

Some of the technical terms used in the building trades are very curious, and while many of them have some direct clue as to their derivation and meaning, others possess nothing whatever to show their signification or origin. Technical terms vary to a far greater extent than one would imagine. Even in different sections of the same district one will often find a considerable difference in the pronunciation and manner of spelling technical words; in fact, it is often difficult to determine what the correct spelling and pronunciation should be. An instance of this variation may be found in the word "rebate" in the Dictionary of Architecture, which is therein given, spelt in no less than twenty-three different ways: Rabbet, rarebet, rabbit, rabit, rabbit, and others are given. Other words, equally as well known, vary in as great a degree.

At a recent examination in building construction the following question was given: "Give a short description and sketch, where necessary, explaining the meaning of each of the following terms: 'Tumbling In,' 'Welsh Arch,' 'Dutch Arch,' 'Birdsmouth,' 'Hot Short,' 'Cold Short,' 'Natural Bed,' 'Sandwich Girder.'" Although the terms all refer to well-known features of construction, some of the terms are sufficiently uncommon to render an explanation of their meaning of some interest to our readers.

"Tumbling In" is a term in brick-work used to denote the way in which the courses of bricks are built out of the horizontal when it is wished to reduce the width of a chimney or buttress, or the length of a wall.

"Welsh Arch" is another term used in brick-work, and refers to a bad piece of workmanship. When beams of any considerable thickness are built into walls, when, in fact, they are more than about seven inches in width, a single brick over them will not carry the superincumbent load, and it is therefore usual in good work to turn a ring arch over the end of the beam, leaving a small space around it for the purposes of ventilation. Bricklayers often do not take the trouble to turn a fair arch, but compromise the matter by constructing what they term the "Welsh Arch," which simply consists of a brick splayed at each end, supported on the splayed ends of the adjacent bricks. It need scarcely be added that this construction should not be permitted in any good work.

"Dutch Arch." This refers to another form of bad workmanship of the bricklayer. The strength of this "arch"—there is really not a single quality of the arch about it—lies wholly in the adhesive power of the mortar.

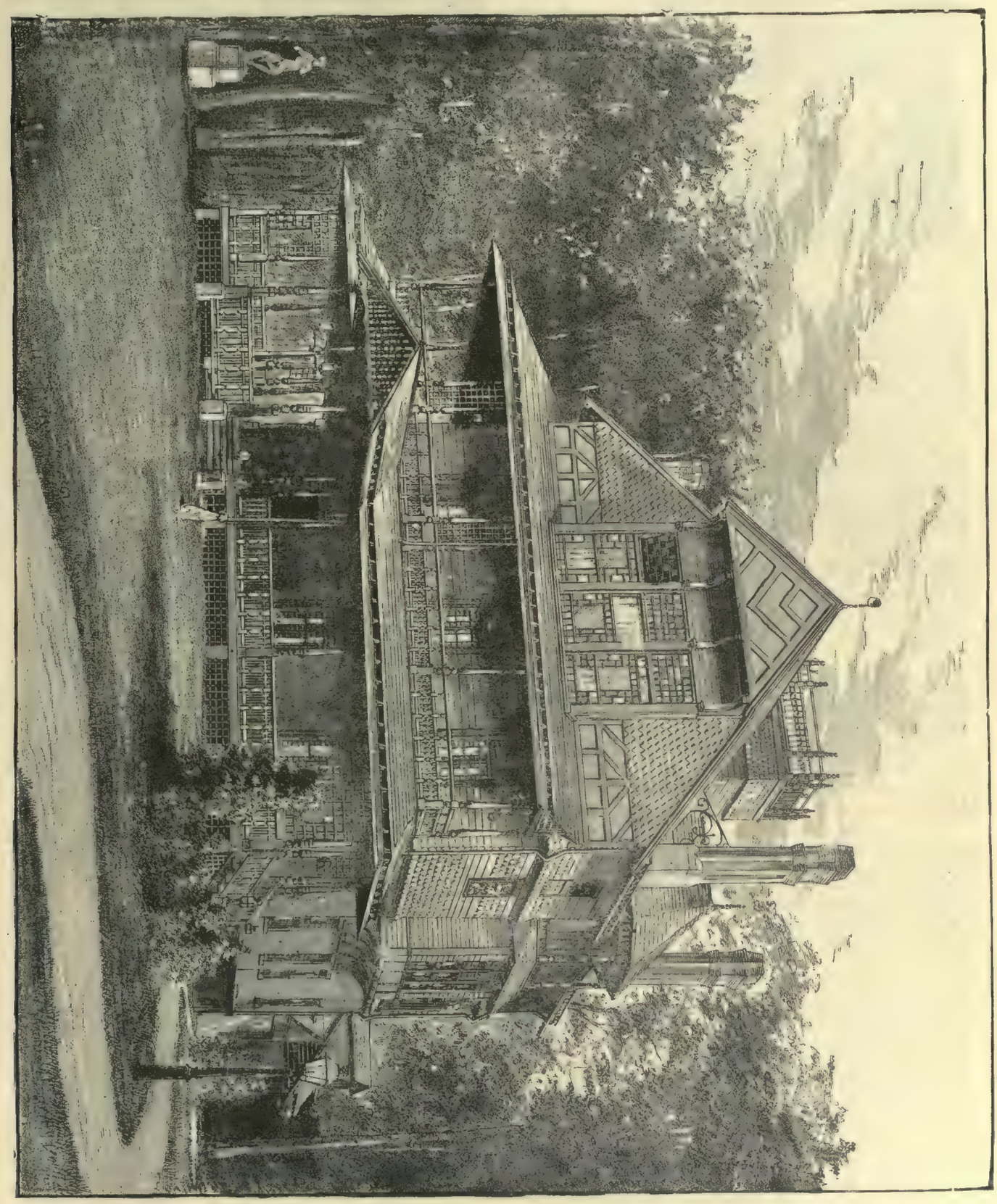
The word "Birdsmouth" has two meanings. First, it is term used by framers as applied to the joint made at the foot of a common rafter, where it rests upon the wall plate; and, secondly, it is applied to the cutting of bricks where it is necessitated by the corner of a building coming at an acute angle.

"Hot Short" and "Cold Short" are both terms applied to defects or impurities in iron. The presence of sulphur, and, probably, also, magnesium, makes the iron red or hot short, that is, brittle at a high temperature; and the presence of phosphorus and silica, cold short or brittle at a low temperature. Both are serious defects; the latter the more so. These impurities come either from the ore or from the coal and flux used in course of its manufacture, and certain materials are, where necessary, used to remove them, common salt being usually employed for the purpose.

"Natural Bed" is of considerable importance to masons. It refers to the plane of deposit of aqueous or sedimentary rocks. It is very advisable that all such stones should be laid on this bed in order that the stone may the better resist the action of the atmosphere upon it.

"Sandwich Girder" is simply a vulgar name given to the flitch girder, consisting of a beam of wood sawed longitudinally down the center, the two portions being reversed or the faces of the parts previously forming the center being placed outside, a plate of wrought-iron placed between them and the whole well bolted together, forming a strong, light, stiff girder suitable for many positions, and more particularly for loads and positions like those of a breastsummer.—*Artus, in Building.*

Plumbers should be careful not to use lead in contact with oak, unless the latter is perfectly dry and free from sap, otherwise the gallic or acetic acid in the wood will turn the lead into acetate of lead or ceruse.



Front Elevation for a Country Mansion.

The above unique illustration was designed especially for this journal. If s rrounded by trees as shown it will present a very striking and handsome appearance. Much depends upon the manner in which it is painted. Rich, warm colors should be used. The arrangement of the porches and verandas is such as to give shelter from the sun in summer and the storms of winter. The cost may be varied anywhere from $10,000 upward. There is no economy in trying to save a few hundred dollars on such a design as that shown. Only the best material and skillful work should be used and employed. Special pains should be taken to have the chimneys built in a substantial manner.

We will be pleased to receive for publication in this column items of information in regard to practical ideas connected with the mechanical part of the building trade. We especially invite suggestions from apprentices and young mechanics.

DO NOT attempt to peep through key-holes, for in the future disappointment will follow. A new lock is now out, and will soon be on general sale. The key-holes for opposite sides of the doors are out of line with each other, and the locking bolt has two key-bit receiving notches, and there are also special key-hole guarding plates, making a simple but strong lock, not easily picked, and entirely preventing the pernicious habit of peeping through the key-hole.

IT is a common idea that a "chimney cannot be too large;" in other words, the larger the area of the flues, the better the draught will be. This is not always the case. In many cases—in foundries, manufactories, etc.—where a chimney has been built large enough to serve for future additions to the boiler power, the draught has been much improved as additional boilers have been set to work. The cause of this is to be found in the increased steadiness of draught, where several boilers are at work and are fired successively, as also in the better maintenance of the temperature of the flue.

ONE thousand brick, closely stacked, occupy about fifty-six cubic feet.

A CUBIC foot of good gas, from a jet one-thirty-third of an inch in diameter, and a flame of four inches, will burn sixty-five minutes. Internal lights require four cubic feet, and external lights about five cubic feet per hour. When Argand burners are used, from six to ten feet will be required.

DRY bricks will absorb about one-fifteenth of their weight in water.

A CORRESPONDENT desires information in regard to seating space in theaters. There is no general rule in universal practice regrading the space to be allowed each person. Boards of Work, Boards of Supervisors, and architects, in different parts of the country, have endeavored to formulate certain dimensions to be used for each individual present in the theater, but when there is a rush, the rules suffer as well as the visitors, in the general squeeze for a place. Generally, the following figures will represent the minimum space to be allowed in the different parts of the house: Width of seat, in dress cicle, eighteen inches; family circle, sixteen inches; orchestra seats, same as dress circle; gallery, fourteen inches. To be comfortable, not less than eighteen inches in width should be allowed for each person. The above measurements apply only to those theaters not using the new-fashioned tip-up seats. Desks used by scholars in our public schools are in length as follows: For two scholars, three feet ten inches long; for one scholar, two feet long. A chair for a scholar five years of age, should be nine and one-half inches high; ten years of age, thirteen and one-fourth inches; fifteen years of age, fifteen and one-half inches; over fifteen years of age, sixteen and three-fourth inches.

IN selecting house decorations see that the effect is not destroyed by the surroundings; for instance, when the carpet is faded and the furniture shows many years of faithful service, by no means indulge in bright colors, plush and satin chair scarfs, elaborately embroidered table coverings. Where it is necessary to conceal defects, subdued colors have a more pleasing result.

TO RESTORE DISCOLORED IVORY.—Wash well in soap and water, cleaning out any carving with a small brush, and place while wet in full sunshine. Wet for two or three days, several times a day, with soapy water, still keeping the article in the sun with a glass shade over; then wash again and the ivory will be beautifully white.

WE have repeatedly called the attention of carpenters and painters to exercise more care in the building of scaffolds, as they are certain death-traps where improperly constructed. There is scarcely a day but what the papers record the death of either a carpenter or painter, resulting from the falling of a scaffold, and it is certainly strange that these repeated warnings do not have more effect upon the workmen who build them. They not only owe it to themselves, but to their families, and we would urge that it be the duty of the architect, builder, or boss, to thoroughly inspect each scaffold erected. By so doing serious accidents will be avoided.

THE houses which sell the quickest are the ones which contain the latest improvements. Improvements are in their very nature such as to add to the convenience and comfort of their possessors. And the old-fashioned portable wash-tub and the cistern, handmaids of the ancient days, were at one time designated "improvements." But the march of progress has not only carried them, but all other kindred household appliances, to the realms of shade, and so in degree the same may be said of everything pertaining to architecture, sanitation, and equipment. From the cellar to the garret whatever conduces to make a well-appointed, finely-equipped, and properly-piped and ventilated house, is that which is rewarded by prompt and profitable returns. And what is applicable in one sphere of action applies with equal force to all others. Those who are heedless of this are always left behind, and make up the long line of "disappointeds" which strew life's pathway.

TO PUT AN EGG-SHELL POLISH ON FANCY WOODS.—Three parts of shellac, one part of gum mastic, and one part of sandarac gum are dissolved together in forty parts of alcohol, and form a beautiful polish, which may be applied with a brush or cloth.

SALT AND DIGESTION.—If a piece of salt is taken into the mouth, the flow of saliva is temporarily increased, though it is not certain that the amount secreted in any given time is any greater than it would have been had no stimulants been used. It has been argued, also, that the effect of salt on the gastric juice in the stomach is the same, and that its use promotes digestion. Some recent experiments, however, on a man who had an artificial opening into his stomach to supply food, which he could not take through the mouth, seems to negative this assumption, and that salt hinders the secretion of the gastric juice and digestion rather than promotes them. If the amount of salt is considerable, digestion almost ceases. Experiments like these have great value, for they help to clear away the superstitions of past ages, which seem to be held by the educated and the ignorant alike.

STEEL NAILS.—Establishments for the manufacture of steel nails and steel nail plates are on the increase in this country. These nails, it is alleged, are produced much more cheaply than those of iron, owing to the cheaper process—the Bessemer—in preparing the metal, but their grip is less than that of iron nails.

A BILL of goods had been sold, and when the proprietor came in he saw the sales book and hurriedly called the salesman: "Did you sell Eiddler this bill of goods?" he inquired. "Yes, sir, I did," was the reply. "How did you sell them?" "On time, sir." "On time! good heavens, young man, why didn't you sell them on eternity, so the account wouldn't be outlawed by the statute of limitations."

WOOD PRESERVATIVE.—Introduce into the pores of the wood the following solution: Mix two parts of gutta-percha with one part of paraffine, heat to liquefy the mixture and apply while hot

A FINE LUBRICANT.—A good lubricant for fine machinery and one which will not gum or corrode may be obtained by putting pure olive oil into a clear glass bottle with strips of sheet lead; expose to the sun for two or three weeks and then pour off the clear oil for use.

TO POLISH GLASS.—To polish plate glass and remove slight scratches, rub the surface gently, first with a clean pad of fine cotton wool, and afterward with a similar pad covered over with cotton velvet which has been charged with fine rouge. The surface will acquire a polish of great brilliancy, quite free from any scratches.

THE heaviest wood known among the four hundred species of trees found in this country is said to be the black ironwood of Southern Florida, which is thirty per cent heavier than water. Sixteen of the species, it is stated, are so heavy that their perfectly dry wood will sink in water.

ASKED, ANSWERED, AND COMMUNICATED.

☞ Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

LOS ANGELES, CAL., July 21, 1886.

EDITORS CALIFORNIA ARCHITECT AND BUILDING NEWS—*Gentlemen:* I observe in your July issue some one asks for "correct method of finding the length of one of the sides of an octagon, the diameter being given."

The rule is given, but the writer cannot exactly see into it. Will you kindly, in your next issue, try to explain the rule more clearly, and illustrate or suppose a case where the diameter is less than twelve inches. By so doing you will greatly favor one of your readers. X. Y. Z.

The rule, as given in our July issue, is applicable to any octagon, regardless of the length of side. If our correspondent will read carefully, he will find that the rule says, "*add or subtract, as the case may be, to the known length, two and one-half inches for each six inches of diameter.*" Thus the mechanic must remember some one certain measurement for a certain given width. To illustrate, we will use a different width from that given in the July issue. An octagon 7 feet in diameter, the length of one of the sides will be 2 feet 10¾ inches. Now to find the length when diameter is 12 inches, the difference between 7 feet and 1 foot is 6 feet; allowing 2½ inches deduction for each 6 inches of the 6 feet, will give 2 feet 6 inches; subtract this from the known measurement given above, and we find 2 feet 10¾ inches less 2 feet 6 inches, leaves 4¾ inches, the correct length of side when octagon is 12 inches in diameter. We simply used 9 feet for width of octagon, as that is the average width for bay windows. The following are some of the measurements in practical use:—

Diameter.....	7	feet	6	inches;	side,	3	feet	1¼	inches
"	8	"	0	"	"	3	"	3¾	"
"	9	"	0	"	"	3	"	8¾	"
" 10	"	0	"	"	4	"	1¾	"	
" 10	"	6	"	"	4	"	4¼	"	
" 12	"	0	"	"	4	"	11¼	"	

The rule can be applied whether the diameter is 8 inches or 80 feet.

DRIERS IN PAINTS.—What are they, how used, and how do they act?

The above three questions are asked by a young apprentice. Their brevity pleases us. The drying of linseed oil is due to the readiness with which it absorbs oxygen, and any material which promotes this absorption is termed, in painters' parlance, a "drier." These, by yielding up the oxygen they contain, encourage the oxidation of the oil.

As many pigments retard the drying of the oil, the addition of driers is necessary to prevent the paint from remaining sticky, or "tacky," as it is termed.

The principal driers are acetate, or sugar of lead, sulphate of zinc (white copperas), and litharge (oxide of lead).

Observe the following points in using driers:—

Not to use them unnecessarily with pigments which dry well in oil color.

Not to employ them in excess, which would only retard the drying.

Not to add them to the color till about to be used.

Not to use more than one drier to the same color.

Avoid the use of driers in the finishing coat of light colors, as they are liable to injure the color.

Our correspondent should procure a standard work on painting, and spend his leisure time in study; this office can furnish any work published in any branch of the mechanical, scientific, or professional occupations and trades.

A BRICKLAYER'S hod, measuring 1 foot 4 inches by 9 inches by 9 inches, equals 1,296 cubic inches in capacity, and contains 20 bricks.

WHAT is meant by "larrying," a term used by bricklayers?

The best way of laying the paving or bricks in the body of the wall, after sufficient facing bricks have been laid, is to lay in between the face bricks a thick bed of "larry," or rather liquid mortar, and then slide each brick along in it into its proper place, in doing which the mortar rises to the top of the joints, the process being called "larrying."

Please state specifically the difference between carpenter's work and joiner's work.

Carpenter's work, as distinct from that of the joiner, consists of framing and putting together all the wood-work connected with the proper construction and stability of a building or other kind of structure. He supplies all the wood-work required to be built in or bedded on brick walls, such as plates, templates, etc.; also all centers, turning pieces for arches, etc.; the carpenter constructs roofs, lays the floors, erects partitions, nails on the rustic outside, and what is usually termed inside finishes.

It is seldom that a carpenter is a first-class joiner. The larger timbers with which the carpenter has to deal, and the comparative absence of that high finish which is essential to joiner's work, render it almost impossible for the same man to be a first-class hand at both branches of the trade. A first-class joiner is always too slow and cramped at carpenter's work, and a first-class carpenter is not usually sufficiently attentive to those details which constitute highly finished joiner's work.

After a house has been built and covered in, the joiner takes in hand all the wood-work, as a rule, connected with paneled partitions, doors, skirtings, dados, etc. In joiner's work, close-fitting joints and smooth surfaces are the chief objects in view, whereas the aim of the carpenter is to give strength to resist the strains to which his work may be exposed.

All surfaces left exposed to view are worked smooth with the plane by the joiner. He must also exercise great care in fitting and framing the various parts together, that they may be affected as little as possible by the shrinking or warping of the material used.

We have stated the difference between a carpenter and joiner as the terms are generally used. In San Francisco, and, in fact, all over the Pacific Coast, the term joiner is seldom used except in connection with cabinet work. The first question a foreman asks of an applicant for work is, "Are you a full hand?" and the answer establishes the questioned mechanic's abilities to perform any certain work. "First hand," "second hand," "floor nailer," "partition setter," "inside finisher," etc., are terms used by men applying for the honor of swinging a hammer or pushing a jackplane, etc., on any certain job. We remember seeing a sign as follows:—

JOHN SMYTHE.

CARPENTER, JOINER, & PIECE WURKER.

Floors naled and Sash put in.

If the man's abilities were equivalent to the knowledge of grammar, as evidenced by the sign, we pity the looks of the work with which he was connected. *Piece workers* are the *scabs* in the carpenter's trade

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LEAD DOTS.—In securing lead to wood-work on roofs, etc., and to effectually protect the nails from rust, etc., the following method is used: Wherever a nail comes, hollow the wood out slightly; drop the lead into the hollow; drive the nail in through the center of the hollow, and then fill up level with solder. The same may be done without hollowing out, but then the lead dot covering the head will project above the surface of the lead work.

IN giving old lead in exchange for new lead, it is generally customary to allow six pounds per cwt. discount on the weight of the old material, on account of the latter containing dirt, etc.

FISH VS. SCARF JOINTS.—When the beams abut end to end, and are connected by pieces of wood or iron placed in each side, and firmly bolted to the timbers, the joint is called a fish joint. When in a joint the pieces overlap each other, and are bolted together, the joint is styled a scarf joint.

AN average gas burner consumes about four feet of gas per hour. Windows, as ordinarily constructed, will admit about eight cubic feet of air per minute.

AT the drum-tap 9,000,000 drilled soldiers would take arms in Europe.

Art and Architecture.

[Special for this Journal. By F. Hillert, Architect and Mechanical Engineer.]

XVII. BOUNDARY OF PERCEPTION.

TO enter on the many explanations of beauty which partly contradict each other is impossible, since the best of them can be referred back to the harmony of spirit and form, and the accord of the power of imagination with intellect when divested of the learned shroud. The difficulty of the subject matter lies herein, that we must abstract the spirit of the beautiful from a number of beautiful things; that our feeling, depending on many conditions, will always speak with it; and that objectivity and subjectivity, principally and with lasting truth, cannot be parted and separated from general views and definitions, which, in themselves, would be comprehensible. Human speculation finds here a boundary she cannot pass, but could she succeed in uncovering the secrets of the human heart, and the miraculous blending of spirit and mind, as they are shown by the pleasure in the beautiful, and discover sober and intelligent laws, it may be that the finest ornament of beauty worth living for would be lost irreparable to humanity.

XVIII. IDEAL OF BEAUTY.

By such characteristics of beauty, as well as a pleasurable sensation of man, the quality and nature of things point by the impenetrability of its spirit back to a mystic cause, without which we cannot conceive or think of the consummate perfect beauty. Then as to man indeed the truth of yonder unapproachable image always will remain, but will destroy him as soon as he lifts the veil; but, nevertheless, he anyway incessantly aspires and presses towards the eternal tree of knowledge, hunting and seeking his liberty in vain, through all zones and seas, and at last, beginning with the smallest, wrestling with himself, must gain his liberty; so he also strives mightily towards the beautiful, but the highest fulfillment of the same remains to him always concealed. Man has presentiment, demand, and pursues to the highest aims of truth, liberty, and beauty, but he never reaches them. Name the primeval cause to which those aims point, as we like, put the relation to a supersensible cause, if we want to express ourselves generally comprehensible; and still more, to give to the human being a contentment of mind, we must, then, always say that the highest truth, and the highest good, as also the highest beauty, rest in God. The being of God once settled, out of him flows the wonderful harmony, which in our feeling, in our mind, solves, in fact, the problem of the spirit and conception of beauty.

The highest beauty is in God, has been said with categorical decisiveness of conviction. And in fact if we speak, from things which by our intellect we do not comprehend, the secret precedence in our breast, but anyway are touched in our deepest mind by unexpressible beauty, and almost raised above ourselves, then we find the purest and only fulfillment in the belief in the existence of God. We see then in beautiful things the images of eternal beauty, and in nature the appearance and phenomena in which only one highest spirit, God, is expressed; and in art the secret revelation of the human spirit, in which rushes the aspiration of the divine breath,—truly a noble and exalted vision of nature and of art. And if we look back to our inward mind and place together and compare the manner of sentiment of man himself, we recognize that in yonder trait is divine beauty; and where we find it expressed clear and shining, we stop there admiringly and say, A godlike, a beautiful soul. The pure inner harmony of mind, undisturbed by any blemish, any uneasiness, finding in itself and its God the most perfect satisfaction, and anyway knowing nothing in its own heavenly purity and innocence, but in sacred aversion and awe recoils when compelled to approach divinity by a worldly symbol. The same speaks wonderfully and enchantingly, and in the figure and in the eyes of such men rests, visible glorious, and magnificent, a beauty which could be called superterrestrial if she would not appear visible on earth; but even in death such a soul may be able to effuse over its dying feature the purest luster, the noblest peace. Nobody praises the soul higher than a poet. To him she stands higher than beauty of nature or beauty of art, and well may be added, unknown to himself, the beauty of his own soul, untarnished by meanness and coarseness.

We can easily realize and perceive that with such supersensible and figurative illustrations for our knowledge, nothing is to be gained where our sensitive faculties come direct to play, as with the beautiful.

XIX. SPIRIT AND NATURE OF A WORK OF ART.

When the beautiful, as has been explained, in respect to the thing, is perfect, harmony of idea and appearance, or, as we commonly say, in accord and harmony with sense and form, so is herewith expressed the characteristic of the meaning of a work of art. But how is this harmony between the spirit and form to be understood? In the inward, immediate, and direct manner, and so that the meaning, the idea, of a certain work of art cannot appear in a changed form; not to be represented and made to appear in other stuff, without itself being changed and altered. Hereby is, in the same time, the impossibility expressed, to bring the idea of a work of art to view by words; what direct can be seen at each piece of music, on every object of the forming art from which, by the most correct description, a clear view and conception never can be gained; the same finds, in a closer sense, its unlimited application on poesy. Then, as soon as it is tried to reproduce the meaning of a tragedy, of a poem, in other words, the insufficiency and inability appear. The work of art is inseparable from its own peculiar exclusive form, which necessarily belongs to its spirit and meaning, as the body to the soul of man; but the form is enlivened and spirited by the idea showing and existing in the work of art, as its soul, which is invisible, as the soul of man. Considering, and not to drive the comparison of a work of art to its highest pitch, and arrive at discouraging results for the human mind, that man is a living organization, having a purpose of his own will, when the work of art is a make, having only the semblance of an organic life. But since the work of art does not know a purpose of will, but only wants to fulfill this one, to be beautiful, it can attain the same more perfect, as in general the natural organization, having other purposes to fulfill.

The idea of a work of art only originates in the fantasy of man, *i. e.*, it originates in the power of his imagination, his mind; without that the intellect in a rational way can get to the same—in direct excitation, with which throughout a more or less raised effect of the mind is connected. The idea of his own imagination, man will and must, by his own inner urgence and drift, make visible and conscious to himself, and in doing this he creates at least a basis for his work of art. He does not sober down the charm of his own inner vision, in giving the same in words, and with his intellect seeks an expression accordingly for it; but his inner vision of mind flows direct into the lines, in the color, into the modeling clay. He touches the lyre and draws from it melodious sounds which, in his own imagination, presageful and yet knowingly lived, or he powers them in words. He does not seek the whole richness of his soul. So works of art are produced, noble, high, and beautiful in all, perfect and well equipped.

XX. RETROSPECT.

Connecting all together, we obtain from all our observations which we, in regard to the explanation of beauty, as well as in creating a work of art and its enjoyments, always and unalienably, were referred to incidents of our mind, taking away therefrom all logical perception and arriving in us to a consciousness which distorts, stains, and destroys, so soon as we wish to reconvey them to bases of reason, to establish and prove the same by ideas of reason. But if we now consider that the happiness and the pure contentment is poured out by the world of the beautiful, and when we think that the highest reward for a good and

noble act done disinterestedly lays in our soul, and if, lastly, we must acknowledge to ourselves that even the abstract thought gives the highest contentment to man, only then, when in a victorious satisfaction out of a conflict he has gained to the world a truth, can rest a moment,—well might we throw up the question, since such moments to the human being grant a complete satisfaction, and hereby a presentiment of the highest happiness is accorded. Does, then, the inner essence of human life lay more in the pleasurable perception, or, as we might believe, in the thinking?

Before we proceed any farther, we should attach here some remarks on the other kind of the æsthetic effect on our mind. We spoke of the beautiful, but with it the whole dominion of sensible impressions is not exhausted in regard to the form and its signification. But since to our feeling, if otherwise we do feel, nothing is indifferent, it follows we distinguish only that which is agreeable to our senses from that which is disagreeable. The former is positive; the last negative. The last we call ugly, terrible, monstrous, and such like, but here we cannot enter on its explanation.

XXI. THE SUBLIME.

The positive does not exhaust itself alone with the beautiful, it includes in the same time the sublime and the cheerful, and between these two lies the beautiful. The sublime exists only in nature, and only such things are for us sublime which bring us direct by the power and might of their aspects to the presentiment of a divine cause of their creation. Not the magnitude of the spiritual meaning for itself is decisive for the sublime, but this religious relation; not the preponderance of the ideas over the form, but the indirectness with which our mind, by its aspect, is directed to God. But if art wants to effect such like, she becomes symbolic; man can only express that by his work, what he comprehends; that lying and being in the sublime, he does not comprehend; he has only a presentiment, and therefore can never make the sublime. But the perfected work of art, we say, originates by a breath of divine inspiration, and therefore must, in the perfect work of art, lie a touching point of the sublime, even only a touching point.

XXII. THE CHEERFUL, MERRY.

The cheerful (jolly) is not in nature, but only in art. If before the sublime our disposition becomes one of veneration, even of worship and adoration, then we want to enjoy the beautiful, full and whole; but over the merry we want to laugh. But as not all that we venerate is sublime, that we enjoy is beautiful, so is not all over which we laugh, merry.

To explain, the cheerful or merry, or, as it may be called, the comic man, has not been successful. The question, What is comic? has not been solved. We decide, with surprising security, this or that is merry or that is not; but why we do so we cannot support by a general everywhere-satisfactory definition. Since Aristotle, all æsthetics on the definition of the merry, became themselves merry æsthetics. The grades and undergrades of the merry in all possible arts make it more difficult to bring them to a common subordination, to one definition, which we will leave to the reader to bring under one cap, the humoristic, the witty, ironic, the caricature, the burlesque, grotesque. If we limit ourselves to the forming art, we recognize that in all comic works pure harmony is disturbed in a manner, that subject matter belonging together are set up, that is, that contrarieties are united in an unusual manner, and that matters belonging together are connected in an unusual manner. To this opposite only spiritual, only in the idea, then, the work produced is humoristic; but if it appear in form, it becomes a caricature.

XXIII. THE HUMORISTIC, THE CARICATURE, AND THE SATYR.

The humoristic picture, the truly proper form of the appearance of the comic in art, is always without a sting and harmless, and follows the general rules of form.

This meaning is in the spiritual conception, in the manner with which the artist entangles the contrarieties and solves them again. With humor we can only view general evil, folly, and weakness, and humoristic work, therefore, can only in a general sense point its expressions against a certain person; then the conditions of human society furnishes stuff for the forming and introduction of contrarieties. Inasmuch as the plastic in single works can be humoristic, painting is any way the dominion in the forming art, and indeed a part of the mythological objects, the animal, fable, etc.

Caricature is wit drawn, and has always the purpose to ridicule, to scoff, to mock, to humble; is mostly directed against a certain person. She has therefore a point. She is an exaggeration and therein lies her comical result. But since the same already pursues an outward purpose, she does not belong any more to the dominion of the pure art; she uses art as a means for its purpose; may be that the figure is stretched, and that to the same is given an excessive large head; and may be that the same introduced in extraordinary relation to other figures and things. The caricature always remains a certain premeditated disfiguring and deforming of the peculiar form, and therefore in this sense does not belong to the domain of art. An intermediation between her and the humoristic work is the figurative satyr, which, as it were, in a harmless way, secures its victim, and, when secured, and begins to rejoice over the humor, the person of the same unaware, is struck a blow in the face with the satyr's cloven foot. Hereby is a regular form observed, but the spirit is directed against a certain object with the intention of a covered assault. This particular moment taken from speech is in art difficult to represent, but it may be introduced in the same with the assistance of the comic allegoric.

We must desist here from a further expounding of these difficult relations, which would remove us from our purpose, and point only to the fact that as the beautiful in its highest perfection touches the sublime, so its lowest state has already mixed with the ugliness, that is, its own negation; it is in us a gradual succession of æsthetic impressions and feelings; but when the merry passes over us without any deep impression, the sublime captivates us, the beautiful gives us full, pure, and noble satisfaction, which remains with us and is lasting.

The morning gate of beauty is the consecrated land of perfect humanity; behind him lies the merry world, before him the sublime infinity; but only under the ark of peace, which is a protective haven adored with all the gifts of art expanded over the race of mortals, men thrive, whole, good, able, and noble.

XXIV. THE DIFFERENT ARTS, THE THREE DIVISIONS.

We have before already separated the forming from the art of sounding, according to their marks of perception, and both only in the manner as to their expression, designated them as different. We turn ourselves exclusively to the first, which we, in future, will abbreviate, simply calling it art, when the sounding art generally is introduced as poetry and music, which is the plain language therefore in general use. Of the art in the closer sense we have the art of building (architecture), of sculpture, and of painting, the two latter united to the arts of forming. They are founded throughout on the same origin, and their differences are again only in their peculiar condition in which each of them in their manner brings its work to appearance.

XXV. THE ART OF BUILDING (ARCHITECTURE).

The art of building is the least art in all its parts since the inventing or designing artist does not himself execute his own work, but has the same done by others, under his direction. The sole artistical effect lies in the conception of the plans which he makes and fixes, and accordingly the building is executed.

At such designing the artist's fantasy must be in complete and full tension, to bring to him in his mind the building to be designed so clear and visible that he can oversee it as with a single glance, detecting no faults and finding it satisfactory. Then with the plan once decided and determined and the execution started, the same, on the main, must be proceeded with, as changes of any considerable extent and importance are not admissible; when the other artists, and fully the poet and the musician, have unlimited sway. But not only this, but more the mechanical fitting together of the building material, the construction based on the statistical laws; but, before all, the problem that the building itself must satisfy its practical purpose, gives to the art of building an unartistic addition, and yet are all these moments absolutely necessary to give to the building a beautiful appearance. Then were the same put up without connecting and joining of material, without construction, hewn and worked out as a whole of the natural rock, as perhaps the free-standing buildings and cavern temples of the Indias, it will always bear the character of the crude and accidental; but when a building has no practical purpose whatever, or at least not a reasonable one, as, for instance, some monuments erected in our time, it brings forth the impression of the gloomy, uncomfortable, and senseless. From this we learn that the purpose is the essence of the artistical idea; that a building without it misses its vital part, as a work of art is in want of the spiritual sense and meaning. It is, then, no more a work of art, but a nonsensical play work; just as a purposeless heaping up and adorning of heavy and huge masses of stone would be a senseless play. Herefrom it would also appear that the art of building with its practical purposes could not produce a work of art, which would for itself be beautiful, and in fact and in the face of the higher demands of art ceases to be art. But the artistical lies in the conception of the purpose in its perfected sense, and in the effort to show this in the building as a direct expression. This is the principal thing;

but a second moment we have in this, that the crude masses of the material used in the construction, must obtain a beautiful form, in which the legitimacy and law of the former finds its expression so that the building, as an organic growth, destined for a clear, unmistakable purpose, is expressed by its form. The beauty in the art of building has a good deal of similarity with the beauty in nature (see No. 15), from which the same obtains his artistical form not in a direct manner but so that she unites the same with geometrical symmetry, and so finds a natural expression for the mathematical dryness of the construction. Herein exists the æsthetical language in the art of building, the ornament, which is the more powerful, perfect, and beautiful, the more in an indirect manner, the construction of the statistical motives and destination of the building members adorned by it, is shown. So before all the Greek Doric column, a strong, powerful, slightly swelling or tapering shaft growing out of the bottom (foundation) of the building in a thickly set stem, giving to the heavy burden resting on it a sure and safe support and by its ribs and caneluers fluting, giving to it the appearance as something organic, grown in the manner of a cane, tapering gradually with the ascend where one or more rings impart to it a larger and stronger coherence. The plant grown in Greece (*Dolden specia*) was a hollow tube and ribbed outside, having a larger compressive resistance and likely was taken as the symbol for the adoration of the shaft of the column.

Above the same swells, in beautiful curved lines, the capital on which an ornament of turned-down leaves indicates that the weight of the entablature is acting upon it. Around the square plinth, serving as a mediator and receiver of the weight of the beam resting on the column, runs a beautifully arranged ribbon artistically wrought around. This may serve to indicate how the art of building ornaments and decorates, whereby it cannot be passed in silence that very many ornaments, namely, with barbaric people of the middle ages, and even later, and now, partly in their rawness and partly by their playing tendence, are far off from the earnest and the truth of that which it should be to give to the form of the construction a spiritual meaning. To the fantasy is here left a wide range, and it can on the different parts of a building on the massive inclosure, the running around, the free standing, the loaded and the load, the free overhanging, etc., sufficiently manifold, manifest itself, of which the more or less perfect ornaments of all the different styles of building give evidence.

Have the single parts of a building in accordance with their spirits obtained their beautiful form, then they have again to be referred by their position and situation to each other and to the whole purpose of the building, the spiritual meaning of the same as a whole, what namely holds good and is true in regard to the preventing of the mixing of the different styles of architecture. This purpose finds its first expression in the first sketch, on which is based every matter in the ground plan, which arranges the situation and position of the single rooms to each other according to their contemplated use, but already indicates what construction the artist in the execution of his building will use. Is a wide, large hall, perhaps for the sitting of a legislature, to be made, then are no Doric columns nor Gothic arches or such like to be applied, but inclosing walls are to be erected, over which a wide ceiling, free and easy, is to be suspended. This is, in the same time, foreseen and decided in the plan, and since, as has been shown, the ornament,—the art language of architecture,—are not to be selected arbitrarily, but must be founded on the construction, then the plan points already to those, and the same to the construction. The unity of idea is therefore unconditionally existing, notwithstanding all apparent contrarieties, and as the building artist conceives his problem, and then shapes and forms it, he must complete all in one in his fantasy; plan, position of the building member to each other, construction, style, ornamentation. One is conditioned by the other, not one before the other, and all besides each other. By means of a comprehensive drawing he supports the picture of his imagination; and his sense of taste must be his guide for the production of a real, true work of art.

It is generally known that the Washington Monument is higher than any other structure now in existence. While this fact is seldom disputed, still it does not equal the Biblical Tower of Babel, which, according to the best authority, before its fall had reached an altitude of about 680 feet, being 125 feet higher than the monument erected to the memory of Washington.

A Frenchman has found means to restore the life-like expression to the eyes of dead persons. He places a few drops of glycerine and water in the corners of the eyes and the effect is said to be startling, so life-like do the eyes become.

Building Outlook in San Francisco.

Although the remark is repeated by a thousand tongues daily, that "building is being overdone in this city," still a hundred, more or less, of owners of building lots demonstrate each month, by commencing building improvements, that the streams of faith in the future of San Francisco continue to flow.

There is a considerable showing of vacant houses in the city, but not sufficient to deter others from improving their real estate. The greater number of erections are for rental purposes, but there are also a large number of private residences under way and contemplated. The improvements are not confined to any special locality or portion of the city. Some parts are more desired than others, but all alike share in the general prosperity.

As to the quality of construction prevailing, it averages fair, but only a small proportion aproximating first-class. The universal disposition of owners is to economize, and build as "cheaply as possible." There are but few cases of even reasonable liberality in outlay. The dollars of cost are weighed for all they are worth, and made to spread out to the last grain of value, without fair and equitable compromise in the class of material and workmanship. The best of everything is wanted, and any suggestion proposed by architects to lessen outlay, by introducing low-cost articles of not unquestionable quality, is almost sure to be rejected, with a lingering desire on the part of the owner, to enjoy the benefits of the more expensive without increasing the total cost.

These remarks apply more particularly to houses built to rent, in the erection of which wise and prudent economy is proper, as rentals are generally regulated by the sum of costs of construction, and renters are not willing, as a rule, to pay five or ten dollars per month more for a house containing no more than equal accommodations, simply because the owner may have exercised a fair degree of liberality in introducing better materials or fixtures, which do not produce some visible effect to the eye, and an impression upon the mind of the renter that the demand for the extra amount is warranted in certain ways and is reasonable.

It is poor economy, however, if not absolute folly on the part of any owner who attempts to cut down outlay, by resorting to the use of "shoddy" construction in any part. For, while it may prove a present saving, it is an expensive one by reason of the continual repairs afterward required to "keep things in order;" for it will be found, as a rule, that poorly constructed buildings require almost constant attention to keep them in repair and good condition. "Shoddies" of any sort are poor investments, particularly in permanent building constructions, where decades, if not generations, of wear and service are required. This, intelligent owners readily realize, and, therefore, dictate approximately first-class material and workmanship, as practically the more sensible and economical course. But it is not always the case, indeed, but seldom, that this intelligent understanding of matters is followed to its legitimate application,—a willingness to pay the excess in value and cost of the good over the inferior. Consequently, the absence of fair liberality toward those engaged in building works, by those for whose profit and benefit they are executed, has a bad effect, in that it stimulates purposes on the part of contractors to meet this condition of things, by practicing methods and procedures calculated to equalize the exactions of those who want excellently well-built houses, at five to twenty per cent less than a right and proper cost. It is simply absurd to suppose that men will not work out every possible saving in executing contracts, in which a fairly liberal disposition is not manifest by owners, in confining competitions to recognized, trustworthy, and competent bidders, and excluding the rough scruff and irresponsible class from the privilege.

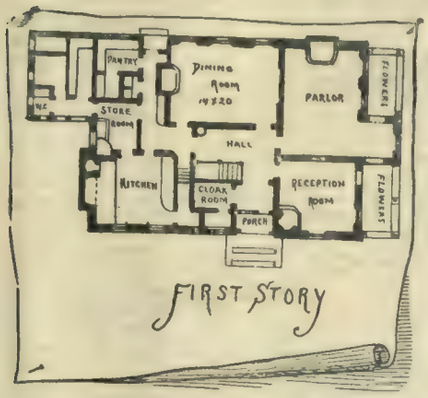
Tract distributers in New York complain that thousands of tracts are being distributed throughout the tenement house districts and along shore, printed in imitation of the genuine, and bearing titles such as: "Be Saved," "Salvation for All," and the like, which, after a page or two of religious argument, run off into eloquent patent medicine advertisements.

Smallest convenient size of slab for a fourteen-inch-wash bowl, 21x24 inches. Height of slab from floor, two feet six inches.

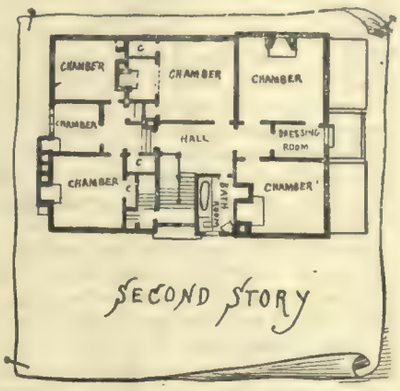
A double bed is six feet six inches long, by four feet six inches wide. A single bed is two feet eight inches wide, by same length as above.

A 4x8-foot billiard table requires a room not less than 13x17 feet.

Plans for a Commodious Country House.



THE accompanying engravings will well bear a study from those contemplating the erection of a commodious country building, where compactness ist he principal feature to be taken into consideration. The rooms are ample in size, and a close study will disclose that every convenience is provided for usually found in this class of houses.



About Sleeping.

WE believe in sleep and enough of it. A man may get rich faster by long working hours, but certainly he will live the longer by devoting at least eight hours of the twenty-four to reposeful conditions of mind and body. Franklin declared that six hours sleep were enough for any man but a fool. Franklin was undoubtedly a great philosopher, but in this respect he probably erred in making his own frugality the standard for the rest of mankind.

Still one may sleep too much. A recent writer grows enthusiastic over what he calls the forgotten act of lying abed. It is certainly a clever bit of consolation for those who must do it.

"One of the most useful yet neglected of all the arts is that of lying abed. The damage that is done by persons getting up is past all reckoning. All the mischief and crime, the counterfeiting and forgery, the murder and theft, are perpetrated by parties who persist in getting up. Not only individuals do wrongly by leaving their bed, but rivers as well do an immense amount of damage. "What man ever broke his leg on a slippery pavement or was run over by an omnibus, who lay in bed?

What great achievements have been accomplished in war, in poetry, in literature, by genius abed! 'Coming events cast their shadow before'—one of the most memorable lines in the English language—originated with the poet, Tom Campbell, one morning before he had risen. Longfellow thought out that exquisite poem, "The Wreck of the Hesperus," after he had retired. Ben. Franklin said, 'Early to bed and early to rise makes a man healthy, wealthy, and wise.' Now Franklin started out all right but got terribly mixed up when he said 'early to rise.' There is the fatal mistake. People who rise early are sure to catch the malaria; the ground is full of half-hatched poisonous germs; the sun is not up and has not warmed them into life, giving them wings and set them adrift. Poor mistaken man, he arises, inhales them all; they fructify and poison his entire system; hence chills, fever, malaria, and half the ills that human flesh is heir to.

> "'Rise before the sun,
> And make a breakfast of the morning dew,
> Served up by nature on some grassy hill;
> You'll find it nectar.'

"Was ever more arrant nonsense written? Fancy a man getting up on a cold, rainy morning and climbing high hills on an empty stomach, but to eat—what? Why, dew. How long would that fellow last? Wouldn't he be a fit candidate for Lone Mountain, and no questions asked? But the early bird catches the worm. Yes, but the sharp boy knocked that delusion in the head forever and eternally when he said: 'Father, there's the point—what in thunder did the worm get up so early for! He trifled with destiny; he tempted fate; he should not have done it.' That boy was a benefactor to the human race. He was sound on the lie-abed question.

"That French proverb says: '*De lit a la table, de la table au lit*'—'From bed to grub, from grub to bed.' That's something like it. Get up and eat, eat and go to bed again. Why not? All the animals do it. All nature, the grandmother of us all, teaches it. Every animal in the world eats and seeks repose. The cow eats, and, lying down, placidly chews her cud; the anaconda swallows an ox, horns and all, and goes to sleep—'sleep that knits up the raveled sleeve of care, the birth of each day's life, sore labor's bath, balm of hurt minds, great nature's second course, chief nourisher in life's feast.' And yet this is what they would deprive us of who say, Get up, and who oppose the art of lying abed.

"Mrs. Macbeth strikes the key-note when she shouts: 'To bed! to bed!' A Spanish minister, suddenly raised to power, signalized the event by going to bed and staying there for fear he might have something to do. It was in bed in the little inn of Waterloo, that the Duke of Wellington received the list of the terrible casualties of the fatal June 18. Gray's 'Ode to Music' was written in bed, and Sam Johnson's 'Lobo's Voyage to Abyssinia' was dictated to the printers before the great author of the 'Lives of the Poets' and lexicographer had arisen. Peter Pindar (Dr. Wolcott) was so fond of lying abed that he received his visitors lying beneath spreads and counterpanes. Rossini wrote one of his finest operas in bed, and was too lazy to pick up a sheet that had fallen away. George IV. lay in bed to read the newspapers, and Macaulay read twenty pages of Schiller before getting up. John Foster thought out his sermons in bed, and the methodical Anthony Trollope used to read an hour before getting up."

THE extensive outdoor use of zinc by builders at the present time has directed attention to the peculiar process of oxidation which this metal undergoes, and which is so important to be considered in all applications involving exposure. The rusted surface does not rub off or blow away, but forms a sort of hard crust or enamel upon the surface of the metal, and when laid upon boarding which is or may become damp, or exposed to steam or condensation below, it rusts on both sides. The thin zincs first introduced in this way were rusted through, brittleness ensuing and failure being the result. But if the zinc be of sufficient thickness, after a certain time oxidation ceases, and the result is a body of solid, sound metal, encased above and below by a solid coating, thoroughly impermeable to the accidents of weather or temperature, and which requires no painting. The various ways of spreading zinc consist, mainly, in laying it in a corrugated form without boarding, the trusses of iron or wood of the roof carrying the weight, or in rafters about one foot more or less apart, with a corrugation at each rafter only, or upon a general surface of boarding, in the manner of a lead flat.

IT ought to be the aim of every husband and wife to build for themselves some kind of a home, though it be ever so humble, and then to beautify and make it attractive by every device of taste and love. It is possible for very poor people to become real estate owners; the obstacles in the way are not insurmountable; only let each home be built according to its owner's means, not those of their neighbors. How precious is the vine planted by the hands of the children! the shrubs and flowers tended by a mother's loving care! A more intimate knowledge of these pleasures is purifying, ennobling, and strengthening to all natures. The man who loves flowers, trees, and all beautiful things cannot be a bad man; the children who are taught to love these things from infancy, who work, and care for, and help make beautiful their home, are more helpful and unselfish, less frivolous, and more likely to make good and noble men and women. We believe if there was more home-building there would be a smaller number of unhappy marriages, less recourse to courts of law, and fewer divorces.

Some Facts about Bells.

THE nature of the country has much to do with the sound of bells. In a hilly locality a bell will not be heard half so far as if the land were level or nearly so. A bell will be heard a great deal further lengthwise of a valley than over the hills at the sides. Where bell-rooms are lower than the surrounding buildings and trees, these obstructions break the sound and prevent its free passage to a distance. Towers having small windows or openings, with the lower boards close together, often box up the sound. In cities, the noise of steam and horse-cars, manufacturing establishments, carriages and carts rattling over the pavements, etc., is so great that bells are not expected to be heard at any considerable distance, and this is the reason why, in all cities, several bells are used for fire alarm purposes, it being impossible for one bell, no matter how large it may be, to be heard above the thousand and one noises incident to every large place. It is said that the largest bell ever made in this country weighed 22,000 pounds, and before it was fractured hung on the City Hall, in New York. On one or two occasions this bell was heard up the Hudson River thirteen miles, in the night, when the city was comparatively quiet. It is a great mistake to suppose that bells can be heard in proportion to their weight; that is, a bell of 2,000 pounds will be heard twice as far as one of 1,000 pounds. This is not so, for the reason that the larger bell does not possess anything like twice the resonant surface of the smaller one. What is gained and admired in the larger bell is its deep, majestic, and dignified tone, which it is impossible to secure in the smaller one, the weight of the bell invariably governing its tone. A bell of 100 or 200 pounds, in an open belfry, on an engine house, a school-house, or a factory in the country, is frequently heard at a long distance, out of proportion, apparently, to one of 1,000 pounds in a church tower near by; and instances of this kind frequently cause no little comment in the way of comparison. One reason for this is that the small bell has a sharp, shrill, penetrating sound, that must, of necessity, be heard a great deal farther, in proportion to its weight, than the low, mellow, "church-going" sound of the church bell. The same principle applies to the whistle of a locomotive, and it is heard a long distance, simply because its tone is shrill and penetrating. When hung stationary, and struck or tolled, bells will not be heard, as a rule, half as far as when swung. The swinging motion throws up the mouth of the bell, and not only carries the sound off, but imparts to it a richness that is always absent when the bell is at rest and struck. A great deal is to be gained by ringing a bell properly, throwing the mouth well up, and not lazily jingling it. It is not physical strength that is required in ringing a bell so much as "getting the knack" of catching the rope just right, particularly on the second "down pull." The windows in the tower should be as wide open as possible, and the tower ceiled just above the windows.

Market Reports.

CORRECTED FOR AUGUST, 1886.

Pine, Rough	per M feet,	$15 00
" " No. 2	" "	12 00
" " " 2 in lengths	" "	13 00
" " 40 to 50 feet lengths	" "	17 00
" " 50 " 60 " "	" "	18 00
" " Selected	" "	20 00
" " Clear	" "	25 00
" " Fire Wood	" "	8 00
T. & G. Flooring, 1 x 6	" "	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	" "	30 00
" " No. 2	" "	22 00
Stepping	" "	35 00
" No. 2	" "	27 50
Furring, 1 x 2	per lineal foot,	00¾
Redwood, Rough	per M feet,	18 00
" " No. 2	" "	14 00
" Surfaced	" "	30 00
" T. & G. 6 in. 12 ft. and over	" "	28 00
" " " 7 to 11 feet	" "	25 00
" " " under 7 feet	" "	20 00
" Rustic	" "	30 00
" " No. 2	" "	26 00
" T. & G. Beaded, 12 ft. and over	" "	30 00
" " " 7 to 11 ft	" "	25 00
" " " under 7 ft	" "	20 00
" Siding, ½ inch	" "	22 50
Pickets, Fancy	per M,	25 00
" Rough Pointed	"	16 00
" " Square	"	14 00
Battens, ½x3	per lineal foot,	00¾
Shingles	per M,	2 00
Laths, 1½	"	3 25
" 1½	"	3 75

NAILS—Rates were recently reduced to:—

200 keg lots	2 70
100 keg lots	2 70
Smaller quantities	2 75

PAINTS AND OILS:—

Pioneer and Nevada White Lead, 1,000-lb. lots	6¾
" " " " " less quantities	7
Pioneer White Lead (local factory), 5-ton lots	6½
Cal. Linseed Oil, raw (single bbl. lots)	45
" " " boiled " " "	47½
Turpentine, per gallon	47
BRICK—California Building Description, soft, per 1,000	5 50
" " " red, " "	6 00
" " " hard," "	7 50

A LOAD of mortar measures a cubic yard, to make which requires a cubic yard of sand, and nine bushels of lime. Thirty hods filled with mortar will make a load.

THE largest match factory in the United States is situated in Akron, O., which turns out 57,000,000 matches in one day when run to its full capacity.

Building Intelligences.

Where owners' names are left blank, it is so done in most instances by special request.

A

Army, bet. Guerrero and San Jose Ave. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,700.

Alms House Track. Three-story frame.
O.—City of San Francisco.
A.—McDougall & Son.
C.—Owens Bros.
$45,000.

B

Bush, cor. Jones. Two-story frame.
O.—W. Norris.
A.—J. J. Clark.
C.—R. Walls.
$7,500.

Bryant, cor. Langton. Two-story frame.
O.—J. Mahoney.
A.—J. J. Clark.
Day work.
$2,500.

Bush, cor. Van Ness. Alterations.
O.—Capt. Blair.
A.—J. J. Clark.
C.—C. H. Ackerson.
$1,800.

Broderick, bet. Hayes and Fell. Two-story frame.
O. and B.—J. Adams.
Day work
$4,500.

Bush, nr. Devisadero. Two two-story frames.
O.—T. Edwards.
C.—W. Davis.
$4,500.

C

Broadway, bet. Gough and Octavia. Two-story frame.
O. and B.—G. M. Salsbury.
Day work.
$2,500.

Broadway, bet. Gough and Octavia. Two-story frame.
O.—T. C. Delamater.
C.—G. M. Salsbury.
$2,000.

Broadway, bet. Laguna and Buchanan. Two-story frame.
O.—C. L. Hovey.
A.—S. & J. C. Newsom.
C.—G. A. Embury.
$4,500.

Bush, bet. Baker and Lyon. Two-story frame.
O.—H. Euler.
A.—J. Marquis.
C.—Martin & Maguire.
$3,500.

Clay, bet. Franklin and Gough. Two-story and basement frame.
O.—A. F. Lijeal.
A.—H. C. Macy.
C.—Bateman Bros.
Brick-work—W. E. Stephens.
$8,000.

Chattanooga, bet. Twenty-third and Twenty-fourth. One-story frame.
O.—
C.—J. Bruce.
$2,000.

California, cor. Hyde. Three two-story frames.
O.—P. White.
C.—F. A. Brown.
$11,500.

Clay, bet. Hyde and Leavenworth. Two-story frame.
O.—J. Berger.
A.—Pissis & Moore.
C.—A. Jackson.
$6,000.

D

Duncan, bet. Guerrero and Dolores. Two-story frame.
O.—H. Dunning.
A.—M. J. Welch.
C.—M. Loftus.
$4,290.

F

Folsom, cor. Twenty-third. Two-story frame.
O.—L. J. Lange.
A.—C. Kenitzer.
C.—F. W. Kern.
$4,500.

Fair Oak, cor. Twenty-third. Additions.
O.—F. H. Wulzen.
Day work.
$2,200.

G

Golden Gate Ave., bet. Fillmore and Steiner. Alterations.
O.—P. Berwin.
A.—P. R. Schmidt.
C.—P. Griffin.
$1,500.

Geary, cor. Dupont. Additional contracts reported before.
O.—A. M. Davis.
A.—Copeland & Banks.
C.—Treadwell & Thomson
$35,450.

Golden Gate Ave, bet. Scott and Devisadero. Two two-story frames.
O.—Margaret Chandler & R. S. R. de la Hautiera.
C.—Bateman Bros.
$9,000.

H

Hayes, nr. Franklin. Additions.
O.—C. Christen.
A.—B. E. Henriksen.
C.—D. J. O'Brien.
$1,100.

Howard, nr. Third. Car House.
O.—Omnibus R. R. Co.
A.—J. J. Clark.
Day work.
$4,500.

Howard, nr. Third. Additions.
O.—John Murtha.
A.—M. J. Welch.
C.—A. G. Fitzpatrick.
$2,000.

Hayes, cor. Laguna. Additional contracts and total cost.
O.—L. M. Fabry.
A.—Miller & Armitage.
Painting, plumbing, plastering, etc. $ 6,700
Total cost of building, 20,100

Haight, bet. Devisadero and Broderick. Two-story and basement frame.
O.—J. Cardoza.
A.—Miller & Armitage.
C.—C. Quinn.
$6,250.

K

Kentucky, nr. Sierra. Two-story frame.
O.—D Keefe.
A.—David Salfield.
Day work.
$2,250.

L

Liberty, nr. Dolores. Two-story frame.
O. Jos. Kennedy.
A.—J. J. Clark.
C.—C. Dunshee.
$3,000.

Larkin, nr. Turk. Four-story frame.
O.—G. G. Burnett.
A.—Jas. E. Wolfe.
C.—Chambers Orr.
$8,500.

M

Market, nr. Jones. Alterations.
O.—F. Grass.
A.—P. R. Schmidt.
C.—J. E. Alexander.
$850.

McAllister, nr. Hyde. Additions and alterations.
O.—H. Dodel.
A.—David Salfield.
C.—B. Dryer.
$1,000.

Mason, bet. Eddy and Market. Additions.
O.—J. P. Schmitz.
C.—R. Currie.
$2,500.

O

O'Farrell, northeast cor. Octavia. Two-story attic and basement frame.
O.—L. Dinkelspiel.
A.—P. R. Schmidt.
C.—J. A. Leonard.
$17,000.

Oak, bet. Fillmore and Steiner. Two-story frame.
O.—Mrs. Kellum.
A.—S. Emery.
$5,000.

Oak, nr. Devisadero. One-story frame.
O.—M. W. Collins.
A.—B. H. Daley.
C.—R. O. Chandler.
$2,000.

P

Polk, nr. Market. Three-story frame.
O.—John Nightingale.
A.—A. J. Barnett.
C.—A. Jackson.
$6,841.

Pierce, nr. Sutter. Two-story frame.
O. Dr. Salfield.
A.—David Salfield.
C.—S. F. Green.
$3,750.

Polk, cor. Bush. Three-story and frame market.
O.—Capt. T. G. Taylor.
A.—W. Mooser.
C.—G. B. Gonyeau.
$25,000.

Powell, bet. Francisco and Chestnut. Three-story frame.
O.—M. Votti.
C.—G. M. Salsbury.
$3,000.

S

Silver, cor. Fourth. Three-story frame.
O.—F. Joubert.
A.—W. Mooser.
C.—J. A. Leonard.
$8,500.

Seventeenth nr. Shotwell. Three-story and one-story frame.
O.—L. Van Laak.
A.—H. Geilfuss.
C.—C. Miller.
$6,500.

San Jose Ave, bet. Twenty-third and Twenty-fourth. Two-story frame.
O.—W. A. Von der Neinburg.
A.—M. J. Welch.
C.—A. B. Tarr.
$3,600.

San Jose Ave, bet. Twenty-seventh and Army. Two two-story frames.
A. and B.—J. M. Comerford.
Day work.
$7,500.

San Jose Ave, nr. Duncan. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,500.

Sanchez, nr. Twenty-seventh. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,500.

Seventeenth, nr. Noe. Two-story frame.
O.—
C.—W. J. Brownrigg.
$5,000.

Scott, bet. Page and Oak. Eleven two-story frames.
O. and B.—Charles Hinkle.
Day work.
$48,000.

T

Twenty-third, cor. Dolores. One-story cottage.
O. Miss A. Murphy.
A.—J. J. Clark.
C.—M. Coady.
$2,000.

Twenty-sixth, bet. Harrison and Treat Ave. One-story frame.
O.—O. Moore.
A.—P. R. Schmidt.
C.—J. C. Bassett.
$1,600.

Twenty-fifth, cor. Bartlett. Three two-story frames.
O.—T. Edwards.
C.—N. Ellis.
$8,000.

Twenty-seventh, nr. Sanchez. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,300.

Twenty-third, nr. Fair Oak. One-story frame.
O.—M. Baron.
Day work.
$1,000.

Tennessee, cor. Sierra. Two-story frame.
O.—Bridget Sullivan.
A.—M J. Welch.
C.—C. E. Dunshee.
$2,700.

V

Van Ness, cor. Pacific. Four two-story frames.
O.—R. B. Gray.
A.—J. Marquis.
C.—I. E. Alexander.
$25,000.

OAKLAND.

Broadway, cor. Fourteenth. Three-story brick. O., Senator J. G. Fair; A., E. R. Swain; $100,000.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

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The following are a few of the owners who have adopted the HILL BLIND in preference to any other:—

S. W. Fabry, cor. Hayes and Laguna; architect, Miller & Armitage. John MacKenzie, cor. Grove and Broderick; architect, H. D. Mitchel. H. F. Bruns, cor. Geary and Taylor; architect, John M. Curtis. R. B. Gray, cor. Pacific and Van Ness; architect, John Marquis. Albert Meyer, Twentieth nr. Valencia; architect, J. T. Kidd. J. C. Weir, Post nr. Scott; architect, J. C. Weir. Dr. J. Rosenstirn, cor. Sutter and Hyde; architect, Pissis & Moore. A. M. Starr, Washington nr. Fillmore; architect, S. & J. C. Newsom. J. H. McKay, cor. Washington and Steiner; architect, J. H. McKay. U. S. Government, Presidio Reservation; architect, J. H. Humphreys. Baron Von Schroder, 553 Harrison; architect, T. J. Welsh. G. G. Burnett, Larkin nr. Turk; architect, James E. Wolfe. A. F. Le Jeal, Clay bet. Franklin and Gough; architect, H. C. Macy. J. C. Weir, Post nr. Scott (second order); architect, J. C. Weir. P. Dupuy, Taylor nr. Turk; architect, W. H. Bayless. J. S. Morgan, Mission bet. Twenty-fifth and Twenty-sixth; architect, C. V. Pierce. John Ritchie, Woodland; architect, W. H. Carson. Court House, Petaluma; architects, S. & J. C. Newsom. L. H. Sweeney, San Rafael; architects, Pissis & Moore, Court House, Santa Rosa; architects, S. & J. C. Newsom. Raymond Hotel, Pasadena; architect, J. H. Littlefield.

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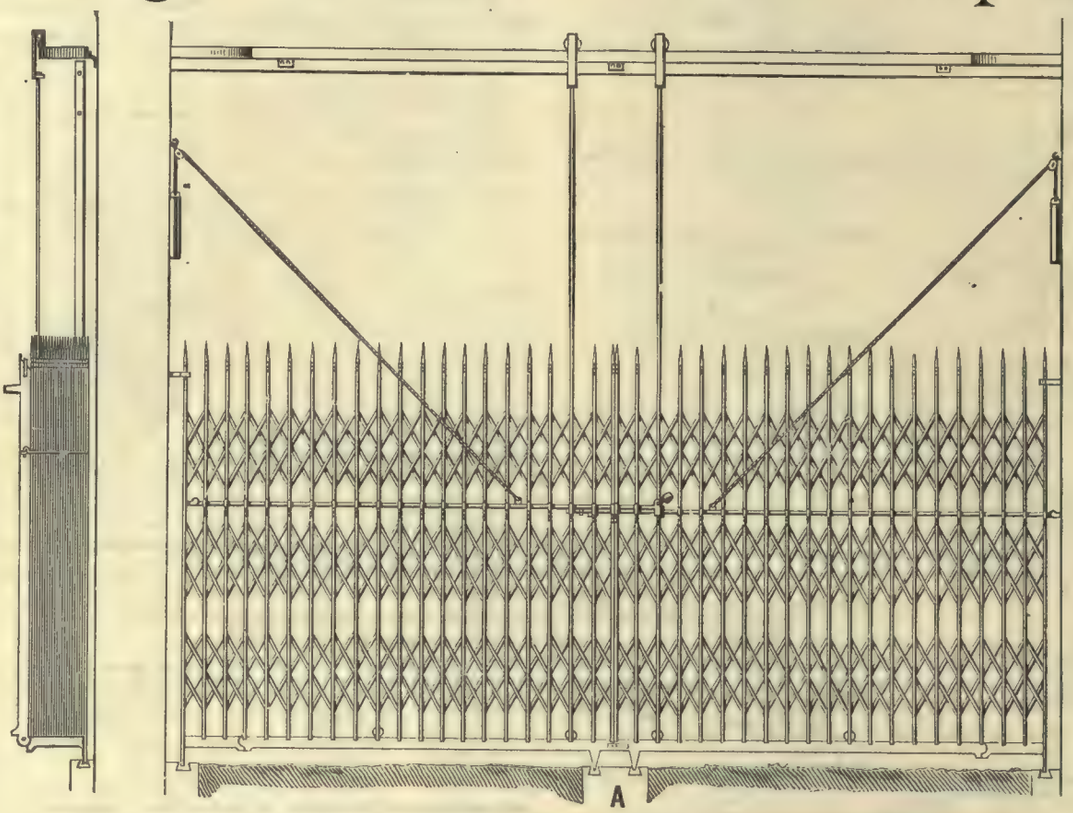

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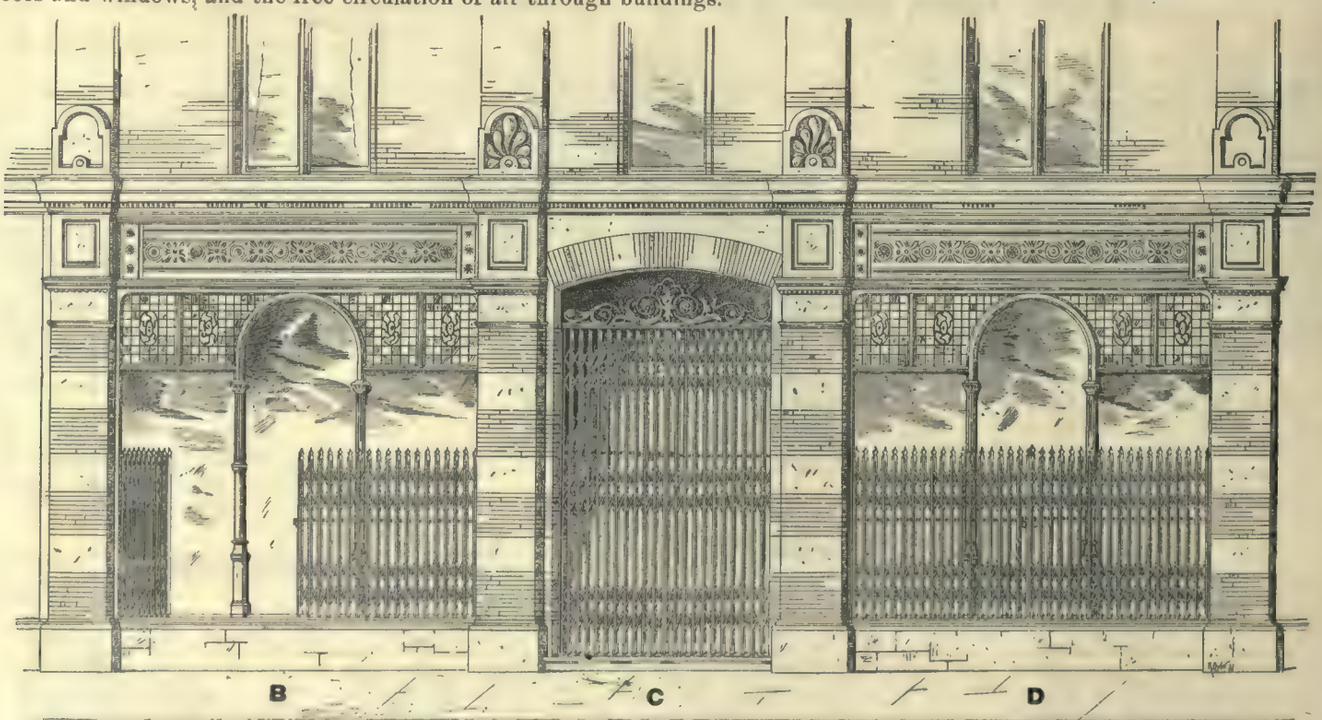
They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against **Burglars, Thieves, Tramps and Designing Persons,** and can be removed and replaced without unhinging. As a **Sanitary Device** they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.



DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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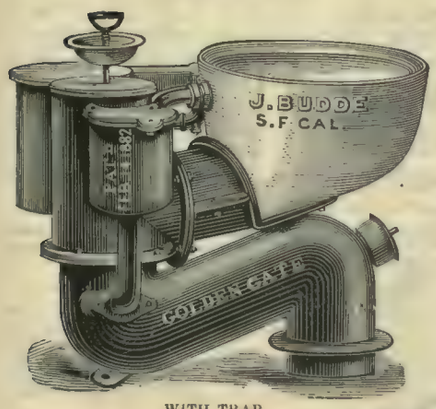
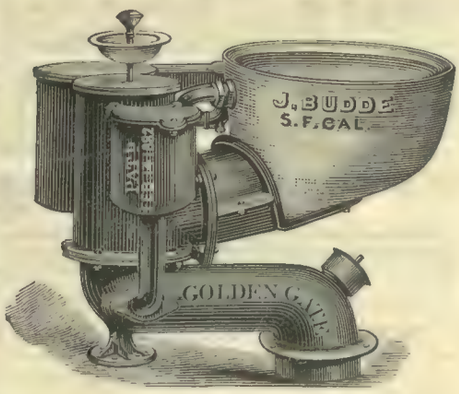


WITH TRAP.



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2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

Side View, Combination Hopper.

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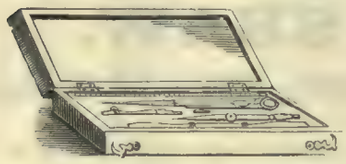

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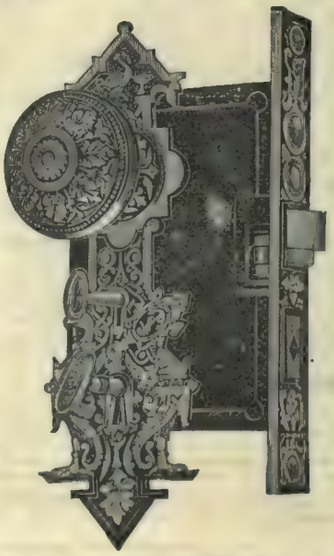

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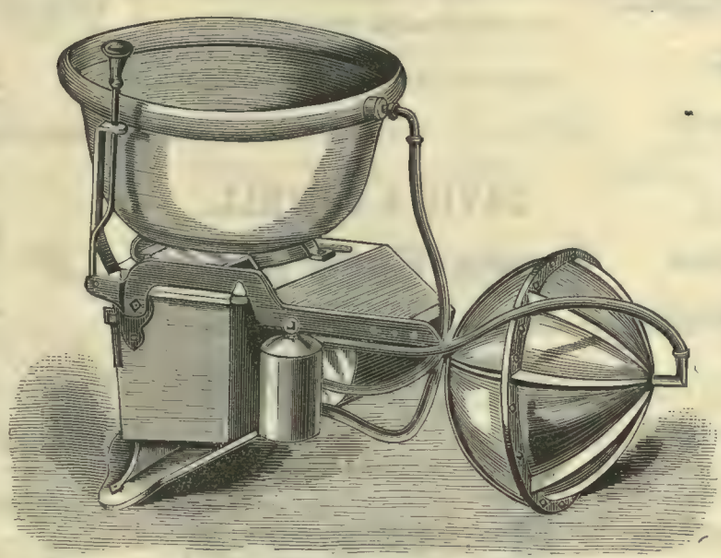

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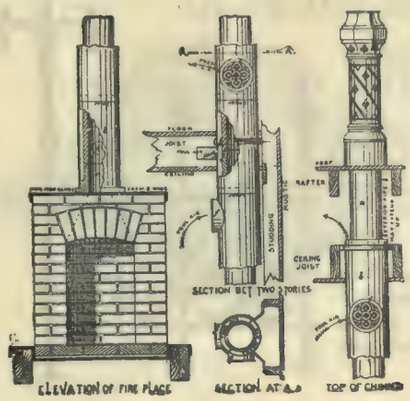

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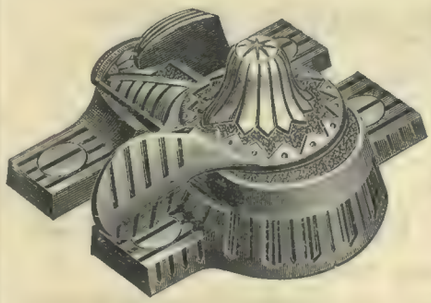

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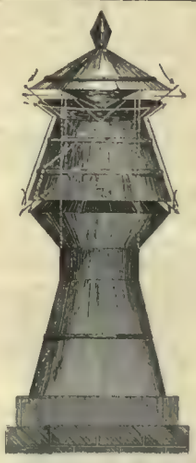

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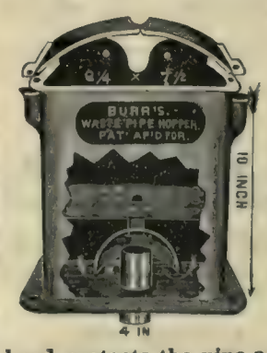

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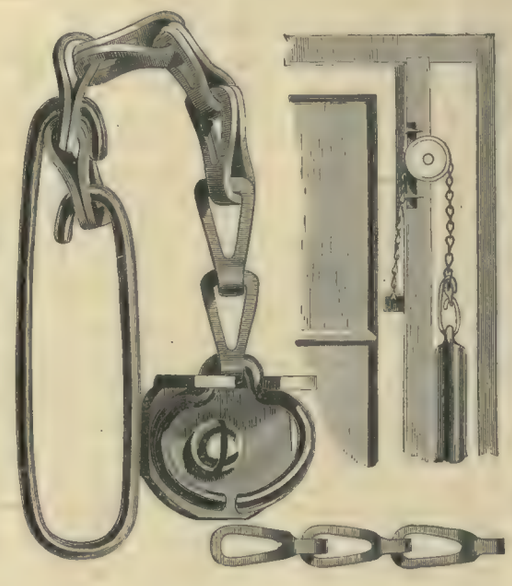

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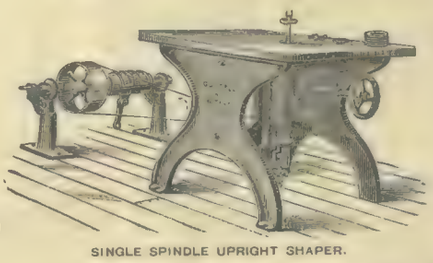

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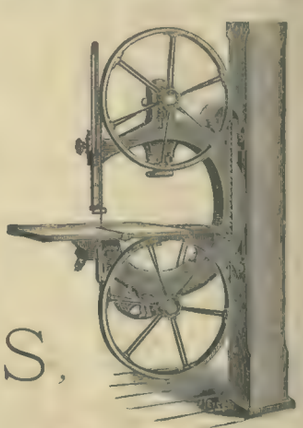

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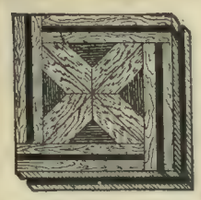

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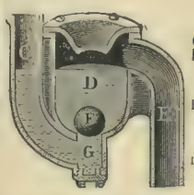

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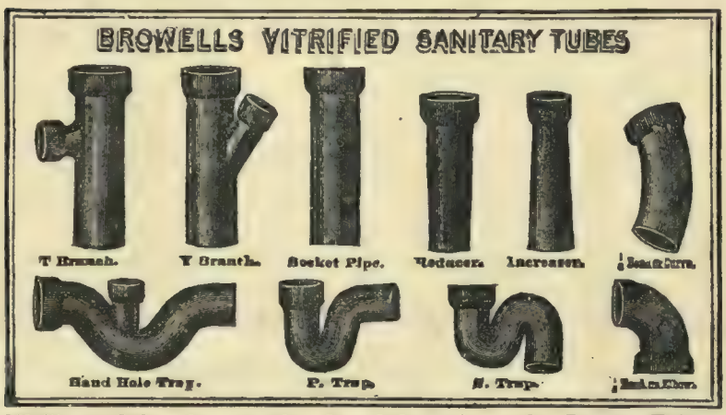

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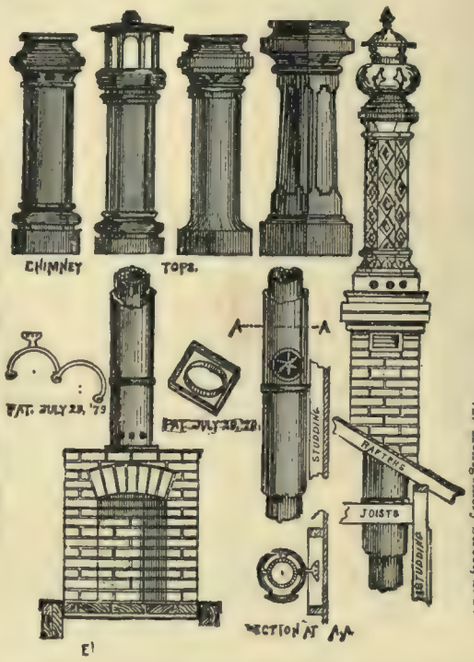

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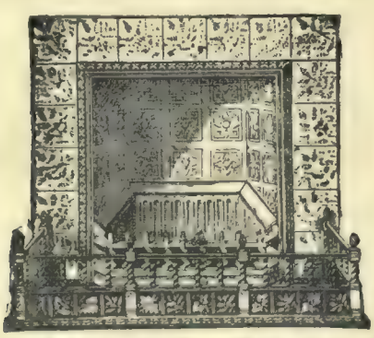

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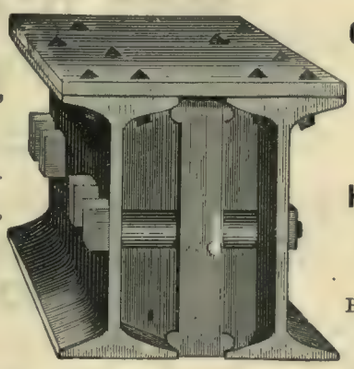

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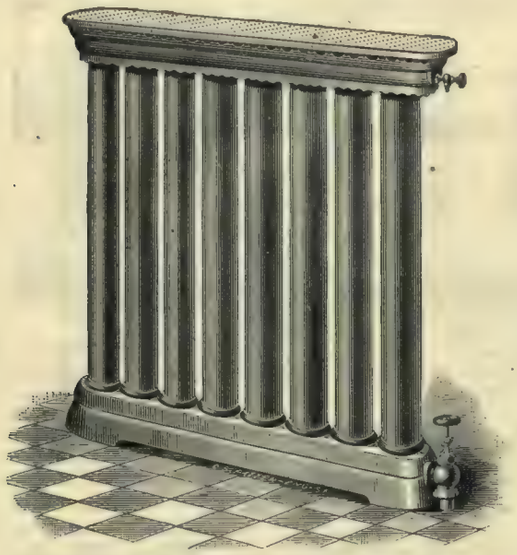

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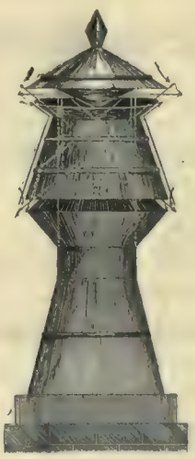

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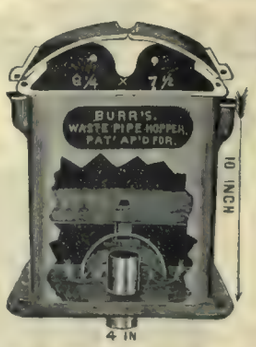

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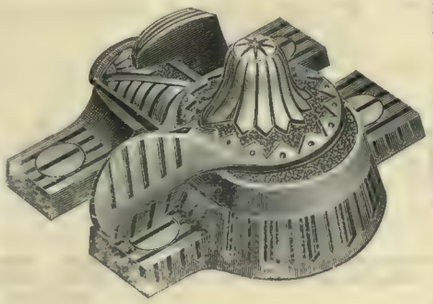

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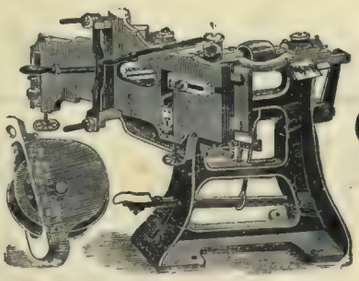

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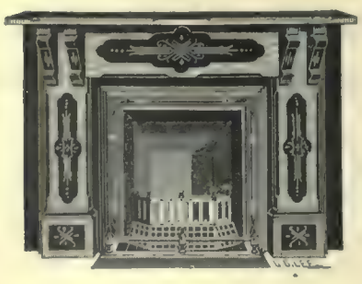

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Volume VII. Number 9.

THE

California Architect & Building News.

A MONTHLY JOURNAL,

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PRICE, $2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., SEPTEMBER 15, 1886.

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THE OFFERED SALE OF THIS JOURNAL.

SINCE the first announcement in its pages that the entire interests of this journal would be disposed of to competent parties, a great many personal inquiries have been made, and propositions submitted and declined.

A sale contingent upon certain stipulations might have been made a month ago, but as we propose an unconditional surrender of the situation, we shall hold the fort until a competent commander-in-chief shall arrive, with satisfactory financial credentials.

Negotiations now pending with parties and firms east of the Rocky Mountains, may result in a full change of management by the first of January next, if not sooner. In the meantime the journal will be continued as heretofore to the best of our over-burdened abilities.

A GENERAL EXPLANATION.

Those who have made inquiry by letter, and personally, have asked for all the facts of the case, and what will be included in the sale.

As a general answer, we state: A sale will include every interest of the publication—its good-will, subscription list and advertising patronage, office appointments, desk, bound volumes and back numbers since 1879, outstanding accounts due from all sources, five hundred copies, more or less, architectural, mechanical, and other publications (optional), and all else pertaining to the publication and circulation of the journal.

We state, in answer to the question repeatedly asked by correspondents, in reference to

COMPOSING ROOM AND PRESSES,

That there are none. The journal has been conducted incidentally in connection with our architectural pursuits, and printed and bound ready for distribution by contract.

But with these limited facilities and restricted advantages, and personal attention divided between two great interests—editor and manager, and practicing architect—each demanding our whole time and energies, we have continued our publication work for eight years (less three months) with a profit to ourselves, making a most enviable reputation for the journal, as evidenced by the hundreds of complimentary notices from time to time published by technical, class, and other journals; and preparing the way for some one to continue its publication with great success and profit.

San Francisco Chapter American Institute of Architects.

THE regular meeting of the Chapter was held on September 3, in the rooms of the San Francisco Art Association.

The proposition of H. T. Bestor to become a member as Fellow, was favorably acted upon, and he was duly elected.

Proposition was received from A. M. Squire to become a student member. Messrs. Pissis, Curtis, and Sanders were appointed as an Investigating Committee.

The following communication was received from the Builders' Association of California:—

To S. F. Chapter, A. I. A.: The Builders' Association of California, recognizing the fact that there is in use in San Francisco nearly as many different forms of contracts as there are architects in the city, and believing it to be desirable to adopt one form for use that shall meet the requirements of the building trades, that shall be alike equitable and just to both the owner and contractor, have appointed the undersigned a committee on the part of said association, with instructions to communicate with you and ask the appointment of a like committee on your part, to meet, consider, and present a form to our respective associations for adoption and general use. We would, therefore, respectfully request your association to appoint such a committee at its next meeting, to meet with us at such time and place as you may select, for the purpose aforesaid.

Hoping the above will meet with your favorable consideration, we remain, gentlemen, Your obedient servants,

Jos. Wilcox,
Jere O. Mahoney,
Chas. C. Terrill.

The Chapter, in accordance with above, appointed Messrs. Wolfe, Kirk, and Gash as the committee.

Election of officers being in order, the following gentlemen, having received the highest number of votes, were duly installed in their offices for the ensuing term: President, A. Pissis; Vice-President, T. A. Eisen; Secretary, B. E. Henriksen; Treasurer, J. M. Curtis; Trustees, G. H. Sanders, A. Laver, J. E. Wolfe, J. Gash, W. P. Moore.

Resolution carried that delinquent members be notified to pay up; failing to do so, suspension will follow.

Summary of Building Activities.

Below will be found the third quarterly report for 1886, as compared with 1885:—

360 engagements for 3d quarter, 1885	cost,	$1,638,260
277 " " " " 1886	"	1,490,279
83 decrease		$147,981

As may be seen, the difference of 83 engagements and cost of $147,981 must be recorded in favor of 1885. The corresponding monthly report for the month of September is:—

169 engagements for 1885	cost,	$785,700
106 " " 1886	"	448,177
63 " in favor of 1885		$337,523

We Want YOU, Who Have Not, TO PAY UP.

ANTICIPATING retirement from the management of this journal, those who have *not paid up* their subscription dues will confer a favor by *doing so at once.* Let there be no delay in this matter. We propose to clean up as neatly and nicely as the good pleasure of *honestly disposed* patrons may make possible, and as thoroughly—☞*as the law provides*☜—with those who refuse or neglect to settle their accounts.

Every unpaid dollar due us has been faithfully earned by unceasing desires and earnest efforts to found and perpetuate a California class journal in the interests represented in these columns; and measured by the mental and physical cares and labors, and the financial requirements to this end, every dollar yet due us has been honestly earned and should be paid promptly.

We hope not to be required in any case to invoke legal redress, but as protection of publication interests, which have been and are so often abused by that portion of the reading public who seek to obtain their reading matter without cost, the law in such cases made and provided is, that every man who *receives* a subscription journal of any sort, can be held and made to pay the full amount of subscription, up to the time of *payment* and stoppage.

Questions and Answers.

BUSINESS MANAGER OF ARCHITECT: Will you please to let me into one of the secrets of the "perfumers' art," and tell me how it is possible to make so much "triple extract of heliotrope," when I know from my extended travels, there is very little indeed of heliotrope flowers cultivated for the perfumer to use?

CURIOSITY.

San Jose.

ANSWER.—I do not know that it is just right to expose the secrets of the perfumer or any other art or profession. But as "Curiosity" is an old friend, I will just this once let her know how to make essence of heliotrope without the flowers. Add to a tincture of vanilla a small proportion of oil of bitter almonds; add essence of rose, and orange flower, *q. s.*, and you will have an excellent extract of heliotrope. G. H. W.

EDITOR CALIFORNIA ARCHITECT: I have taken the *Carpenter and Builder* (published in New York), for the past three years. There has been quite a controversy in it in regard to the number of shingles a man can put on a roof in a day. How many do *you* think a man ought to lay in a day, provided he made a good job? H. T.

San Francisco.

ANSWER.—A man working for us, that put on three thousand a day, each shingle to be well nailed, would be doing a very *faithful* day's work. Of course, we know five, and as high as six thousand, have been put on by one man; but we are not answering to "*slapping*" them on, but simply a good day's work well done.

BUSINESS MANAGER OF ARCHITECT: I have a roof, the span or width of which is forty-eight feet, and the height eighteen feet. It is rectangular, hipped at each end. I can figure out the length of my common rafters easily enough, viz., thirty feet. What will be the length of my hip-rafters? Also, how do you get the length of the latter?

ANSWER.—If your rafters are 30 feet in length (I notice that does not allow of any projection), by the same rule your hip-rafters will be 38.41 feet. You have simply worked out the problem of finding the hypothenuse, two sides being given. Apply same principle to the hip-rafter—regarding a common rafter as one of the sides, and half the width of the roof the other side, of your triangle.

EDITOR ARCHITECT: As I want to furnish all materials for my building, I take the liberty of asking you how much of lime, sand, and hair will it require to make enough good mortar to plaster 100 square yards?

ANSWER.—Eight bushels good lime, sixteen bushels clean sand, one bushel of hair. The longer the latter the better.

A HOUSE in danger, a family in peril.

THE builder that deceives the architect wrongs the client as well, and if he connives at bad workmanship he demoralizes the workman and constitutes himself a criminal.

GARDEN mold may be good for vegetables, but as a component of mortar it spells early ruin.

GOOD workmanship needs no coat of paint to enhance the execution, for like sculptor's work, good workmanship is best judged in the nude without drapery or color.

WET your bricks, wash your sand, slake your lime, but perish not your mortar with water, or your work will not be worth its bond.

The Shingling Question.

IT is rather amusing to see one whose experience is more than local, to read the questions and answers appearing in various journals in reference to what constitutes a good day's work at shingling. Many unwise and intelligent discussions arise from the diversity of answers given and opinions expressed; while the fact is, that no general answer can be framed which will apply to all sections of country—for the reason that shingles, like nearly all else used in the erection of buildings, possess special characteristics within certain naturally prescribed limits. The man who might perchance "lay" 2,500, or even 3,000, of California's soft redwood shingles within ten hours, would find himself loser upon a bet to lay 1,500 Eastern cypress shingles—or in some cases 1,000—fully half an inch thick, within the same number of hours. There is, also, a material difference whether six-penny or four-penny nails are used, and whether there is to be *one* or *two* nails driven in each and every shingle, or on an average, two nails to each *three* shingles. Again, it makes quite a difference whether the shingles are made of soft redwood, the only shingle now used in San Francisco, or sugar-pine, or white fir, qualities more common in other parts of the Pacific Coast. Either of these kinds, compared with those made of harder wood in other States, and much thicker, requiring six-penny nails, bear no comparison. And the man who glories, as some do, over the feat of laying 2,500 or 3,000 redwood shingles, performs no better nor more noteworthy day's work than do other men who enjoy a sense of pride at having laid 1,000 of a heavier and more difficult kind to lay.

Material Facts for Owners' Consideration.

GOOD buildings are sometimes erected without the professional services of an architect, but whether as good and complete as they would have been under the planning and superintendence of a competent architect, is a question. The proposition suggested is reasonable. For the incessant and perpetual study of an architect is to discover and develop new ideas, to determine and mature better plans, to overcome difficulties encountered in prior experiences, to provide against defects and errors which may have occurred, and, in a word, concentrate the entire energies of his mind and brain, to producing improved results; and it is not reasonable to suppose that among men of equal intelligence, education, judgment, industry, and advantages, that those who devote their time, and employ their mental and physical energies in special pursuits, can properly understand and practice their selected avocation, and by incidental application, also understand as proficiently, those specialties which others, their equals in all intellectual and physical senses, have made matters of constant study and daily application. Men generally master not more than one thing or calling, and as the "old saw" goes, "They that are jacks at all trades, master none." We admit that there are a host of contractors who would have become most excellent architects had they so applied themselves. But a reasonably perfected knowledge of architecture can only be obtained by the possession of the natural qualifications of mind and judgment, and constant practice and study. Incidental scholastic and superficial knowledge does not, by any means, qualify men to assume the practice of a profession, than which no other requires the more intense exercise of every mental and intellectual faculty. Hence, we find men calling themselves architects who are simply pretenders, mere frauds, aspiring to be what they can never become, through fatal defects in their natural or acquired qualifications. But mistakes sometimes occur even with the best and most careful architects, and generally when no architect is employed, and almost always when buildings are intrusted to the manipulations and control of parties whose presumption is only equaled by their fearful lack of judgment, and complete ignorance of every correct principle of architecture.

Facade of Suburban Dwelling.

VARIETY in architectural arrangements is as much to be desired as variety in dress. The accompanying illustration presents the front view of a dwelling lately erected in a suburban portion of a country town. The original plan contemplates two houses with exactly the same façade, only having the main entrance doors on opposite ends of the front. By this arrangement of two owners combining the main features of a design, and building conjointly, a much richer and grander effect is produced. From a short distance away, the house would present the appearance of a magnificent villa. As shown, wood, brick, or stone may be used in the construction. Shingles on the gables would much heighten the effect. Due regard must be exercised in regard to the colors used in painting the exterior.

Art and Architecture.

[Special for this Journal. By F. HILLERT, Architect and Mechanical Engineer.]

XXVI. SCULPTURE.

THE art of building incloses space and makes rooms, to which, by the form signifying the purpose, and its creation the semblance of organic life is given, raising the same to a work of art.

With sculpture, every practical purpose for the use of its work drops away; its way of beginning and the staff are of themselves indifferent; they are only wanted to be seen. From the art of building to sculpture, is a large step for independent development, to pure liberty of art from all outside efforts consummated. What conditions are imposed upon sculpture, above all the visible, bodily appearance of the work? The same have, with the work of architecture in common, the extension in length and breadth, but as works of art they are inaccessible to their inside, even as a colossus, the Statue of Liberty of New York, etc., and only its outside in her artificial form, immaterial of the same, is hollow or of a solid mass. The ideas which man can speak out and embody in such work of art, must be shown and given in bodily individuality. The sculptor is to individualize, that is, to make figures. From the—from nature borrowed, mathematically sheamated—ornament by which the art of building indicates, sculpture makes a large stride, by taking the organic living for its model and pattern. Men and animals, single or in groups combined, are her objects, but she has to represent the same so that, out of the form, the figure speaks directly the spiritual, also the character, an action or a general idea. In the structure of the body, the position, the tension of the muscles, the motion, the form of the head and the features of the face, must by this the spirit be spoken out; what in reference to a certain action, an olympic and sword combat, or a certain character, such as of a sudden anger, must lie near by and be self-evident. In reference to the representation of a personified idea it is more difficult to find the right, and we must admire the high sense for beauty of the ancients, which gave to them the idea of love, the most graceful figure; to the idea of pain, the noblest expression; to that of strength, the most perfect form. In the gods and heroes of the ancients are general ideas personified, and this is the highest problem of the plastic. The Christian plastic, compared with the antic, is, ideally taken, poor, since, with the exception of the crucified, of Maria and the disciples, by the legions of saints, is hardly a figure, in which really something general, human, and dignified is spoken out; and only lately we arrived to represent faithful, devout submission, the joyful death of a sacrifice and similarities, even if more so shown in painting.

The works of sculpture are made from one kind of stuff, worked from outside toward the inside, as with stone, marble; or from the inside toward the outside, by putting on, as with modeling clay; or they are cast in a certain form with bronze, iron, and cast-stone, etc. Since, first, what was probably done in past ages for marble and cast-work models of clay were made, then is, in regard to a true work of art, the making of the model in clay is decisive. The later executions are secondary, and belong to the technic, whereby we must not lose sight that the artist already at the making of the model must know how, later, he will complete his work, since the manner of his execution here and there in single parts at the commencement will require a different treatment.

By all works of sculpture is only one kind of stuff, therefore only one color in existence, sculpture colored, as, perhaps, the gilded ivory pictures of the ancients, inlaid bronze work, or even heads of marble with eyes of precious stones, and such like are exceptions and change nothing in the principle; then the colored painting of a statue is something barbaric and belongs always to the period of transition. The corporeity and the hardness of the material, as well as the single color, limit principal sculpture in its production and point the same irrevocably to the statue and figures, denying to the same the physical life, the world of sensibility, and, namely, of deep passions. The eye is yet closed and dead; the soul does not speak through those bright stars. The eyes closed, which is only missing on few figures, is an indication for the whole manner in which the plastic forms. Not bodies in imitation of nature she desires to make, but figures—idealized, spiritual, and godlike. So is the outline of the plastic art the ideality, which, not considering accidentalities of single persons, conditions the image in her eternal duration and pureness. Partly and seemingly dessication from this highest axiom will afterwards be referred to.

Selecting a group, there can come to expression a situation or a conflict, since the position and relation of the single figures to each other can speak and point to an action, or they all can be united to a common idea, as the former, *i. e.*, in the group of the Farnesian bull, and the latter in the group of Neobe and her children, is the case. The single statue will always bear the character of "in itself" sufficient.

But the plastic possesses more, as in the group the means to show actions and situations, namely, in the raised picture, the relief which, from the complete fullness of the space, is already set back from the surface, and by a slight raising and lifting off of the bodies from the background, giving to the same the semblance of a full appearance. Besides the statues is here the representation of other things possible, as trees, buildings, implements, and such like; and the plastic finds here an expansion of her domain, outside and above her original limits; without, however, taking away from her the conditions of bodily matter, and points hereby to the possibility, by extensive training, to an art which is equipped with farther-reaching means, and which is

XXVII. THE ART OF PAINTING.

This art abandons the bodily of the art of building and sculpture, and sacrifices the real actuality, whose semblance she reaches and again obtains, by a delusion or by other means. She is set back in the surface, the plain or curved, and her means of representation is the color. As the things appear to the eye, which only can be seen from a point, and that only from one side at the time, so she would let the same also appear in the picture. If we, in the rear of a visible object for the eye, the front side of the thing would set up a perpendicular wall, then this would represent the

ground plan of the picture; but the plan is filled up with the visible front part of the things, and, indeed, so that those being farther back in the space appear smaller, as they actually are. This semblance is reproduced in the picture, and is designated with the name of "perspective." A work of painting is, therefore, the presentation of objects on a plane, which, by means of color and perspective, produces the semblance of reality, naturally understood under the general condition of a work of art.

By the possibility to represent in an unlimited manner the whole extent of reality, painting possesses in the same time the means to bring to view the inner feelings of the soul, the tender, soft emotions, general ideas of the most affecting modesty to the highest magnanimity, as far as they can take in general a visible form. The offers direct a hand for the personification of an idea, and know how to bring the same with astonishing ease to appearance. Color is her stuff and material, and a few strokes drawn with a pencil on paper, obtain first and have only appearance, when the same by the coloring are set off from the paper. The different coloring material used conditions the appearance of the painter's work; then that which is only drawn in one color, on a certain priming ground, will only in part arrive to the semblance of reality, and the same to be tried to be gained by shading and shadows; but that which is executed in many colors, obtains again, by the material condition of the color, a different character. The different coloring material requires also surfaces for painting of a different material. The mode of the color mixing, preparation, and grinding, the spreading and the treatment of singularities, have also a considerable influence on the colored, that is, the color in her artistical effort, that the finest graduations needed everywhere are made possible. In the coloring, painting has an inexhaustible source of representing the most opposite and contrary dispositions, and hardly perceptible shades. Works of painting are divided, partly in reference to the kinds of means used in representing, and partly according to the kinds of the represented objects; but both, as can already be seen, only refer to the outside aspect.

More correct would be a separation of the different works according to the kind of ideas they represent, so that such works which would unite the most important, significant and essential to one group; but such which contain the accidental, momentary, and insignificant, to another group. The first would be named the historical works in the highest and most expanded sense; the latter, to be designated as genera. The dividing line of the two groups will frequently run over and overlap each other, and we will be compelled to divide the same according to the kind and method of painting, as above indicated, or according to the subject treated, such as religious, historical, historic genera, genera, likeness painting, animals, landscape.

XXVIII. RELATION OF THE THREE ARTS TO EACH OTHER.

While the art of building must content itself to give, by indication to their works, the semblance of the organic, while the sculpture has to remain in the outer form of the organic, the painting penetrates to the organism itself, and lays down the deepest connections of the spiritual and objective in one form, which has departed from nature so far, that the same, instead of the natural occupation of space, which the art of building and nature demand, has withdrawn to a surface, and on it, as illustrated before, the semblance of perfect reality made possible. But of the three arts, is the art of building the fundamental and lawful, standing in the forefront, historically and æsthetically before the others; it educates so, as to say, the artistical sense and the art, and makes man capable to feel himself independent to form; and again, to perceive the work of art as something different from the creations of nature. The sculptor, whose hand and skill for work have already been trained in making of building adornments, the ornaments, columns, etc., steps in next, and at the commencement leans closely onto the art of building, whose rooms she adorns and ornaments; but she also wakens to an independent consciousness, and teaches above all others the beautiful proportion and the ideality. The painting, which has perfected itself the last, enters now, opens to art the reality of things and of the soul. The sister arts are supplementary to each other; they finish the circle of the beautiful, as far as visible to the eye. Their principles unite themselves to a higher unit, which every active artist, wherever he may stand, must be conscious of, namely, cannot enough be pointed out to so lively conception of the strict laws of the art of building, which give, well and truly comprehended, everywhere a sure foundation for intuition, judgment, and invention. Through the union of the arts by their works, speaks a higher whole, and only so arrives each to its wordiest position, to the solution of its highest problems. Nothing better and higher exists in the plastic, as the adornment of the sanctuaries of Olympe and Athens; nowhere is painting higher than there, where it ornaments walls and ceiling of a large room, etc.; and where a building shall arrive at a true and real beauty, perfect monumentality and greatness of the sister arts must reach out and assist the wreath of plastic and figurative ornament, as in museums and fine theaters. But as architecture is connected with the building trades, so points painting however by its gift to actions of the souls of men, which only exist in the time to make them visible in space, already to poetry and music the art of sounding. So it could appear, as if the arts overlapped each other—the art of building over sculpture, by the plastic decoration and the statuary ornament, the figurative, forming to painting by the relieve or raised picture to the simple drawing; but nevertheless the boundaries are fixedly drawn and must be strictly kept; then if one of the arts should forget her conditions and her mode of representation, and, going over to the domain of the other next above, her works become unthoughtful, repulsive, and repellent, then the art of building would become individualized, or the sculpture pictures give, then they are not to be approved; their works do not please a refined and cultivated taste. When, therefore, painting draws statuaristic or architectonic, if figurative forming forms architectonic, it is this, anyway, a restraining of the artistical capacity; but the work carries with it severity and dignity.

XXIX. ART AND RELIGION.

It has already been said that a work of art is the reflection of the state of culture of its originator, his time, and of his people, and this, therefore, coming direct from the original self of its originator, he again being rooted with his whole thought and mode of thinking, with his time and with his people. In the different periods of history must, therefore, appear a different kind of art. The main reason lies in the religion of the people; then the religion, since the beginning of the human race, has been that moment and impetus, in which every time and always the highest interests were united, in which the measure or scale for the thinking capacity, the depth of perception, for the striving after morality, the arrangement of state and for personal dignity is given. That religion, more than anything else, separates and unites people, is clear, and needs no further explanation, since every section of history gives speaking proof; and our time itself, which designates partly a beginning, where the positive religious being passes over to the liberated humanity, is rich in such examples.

Art is intimately related to religion; then the impulse after divinity does not satisfy at first a reasonable perception, but it leads much more to the lowest state of all perceiving, corresponding to the sensitive intuition, necessarily thereto, that man tries and endeavors to make himself a concrete presentation of that which his soul desires very much to see. The most sensitive religions begin with elementary objects, such as the sun, fire, and similarities, and pass over to natural things, as trees, animals, and such like. An imposing progress lies then in the taking of personal objects as deities; and, lastly, the personification of a god-like or any ideas referring to divinity in a certain form. This is true for the whole humanity up to to-day, with the exception of Protestantism, as far as they are true to its spirit and principles; then Judaism and the Mohammedans, who discard images of God and set up only hereby a wise prohibition against extravagancies of phantasy; but the Protestantism, that is, as a universal historical idea, and not in the accidental exterior community with the so-called "Evangelists," whereby it is intended to disabuse a misunderstanding against the works of art of eminent, not Protestant artists, is not hostile to art; as to the former religions, he is only from its own inner spirit against the works of art as images of the godly divinity, and repels from it all supernatural; wherefore he only accentuates the purely human and the nobility of humanity. It is a large process of culture, which only one, and that a very small part of humanity, has brought about, laboriously and slowly, and their universal historical sense and their aims are not very difficult to be recognized. The pace of development runs from the sensual creed to the spiritual consciousness.

The more variable and different religions of nations are from each other, so much different are the arts of the same, and consequently the more they come near to each other, the more similar are these. Yet, when many nations are of one and the same religious belief, the difference in the arts will only be recognized and seen in small, insignificant works, which are to be traced to the different perceptions of the same religion through the different characters of the people, and such like. As long as a people has its own religious belief, it has its own national art, and if one and the same religion is in common with more nations, then is art periodical.

XXX. NATIONAL ART OF THE ANCIENTS.

The national art rules the collective antiquity. Here every nation has its own national religion, and art oversteps the boundary of

the people only together with the religion. The types of the old kinds of art are different in their main spirit; and even then, if we believe that some early relation existed between them, we are on the main only authorized to find in them the first impulses to an independent activity within their own nationality. The most important example pertaining hereto is the dispute on the influence which the Egyptian and Asiatic art had on the ancient Greek art. In the face of the monuments, to deny such influence unconditionally is the prerogative privilege of the superabundant Hellenist, when otherwise to trace and pursue the same up to the prime period of the Greek art, to find in all imitations and perfected Egyptian patterns and models, is a preconceived prejudice of those who are incapable to conceive and comprehend the independent people's character. If the old Pelasgians, and, more so, the old Dorians and Ionians, received from the more advanced people the incitation for art exercises, then this is by no means a lowering of the Greek spirit, but sooner a glorification, since they obtained imperfect and raw germs, which, by their own force, were brought to the highest perfection. Something similar executes itself uninterruptedly in all dominions of life, and the judgment here goes from one extreme to the other. At the time of the Roman emperors, as the deities of the different nations and their culture were introduced in Rome, an inclination for a barbaric art was gained, as numerous sculptures of this period, which were executed in the Egyptian style, show. Religion is now undoubtedly conditioned by the natural disposition of the people, their bodily constitution, the formation of their soil, the lay of their country, and similar influences; but it is already formed, in some measure, by the art training of some nominal value, and thus stands in a closed and fixed relation to the same, which is naturally without detriment to any change after time may make with it. So we find perfectly formed religious creeds, which have already called forth a certain fixed art, but which were proclaimed by an interested priesthood as unimpeachable commandments of divinity.

The true reason is the inordinate desire of power and self-interest of the priests, who, by their divine threatening and menace to exclude the people from every and any interest in their religious organizations, and every, even the slightest, attempt in that direction, is punished in the severest way. So originates a perfect stand-still in the religion, and the once created art forms are retained unchanged. Art is therefore under such conditions that the vein of its life is tied and its development played out. In this way it happened that the same unaltered types of art remained thousands of years in Egypt, and the rigid and stiff Byzantinism, longer than five centuries, showed the same lifeless forms.

In the Indias was the appearance of the reformed Buddhisms the cause of a new and less important art, or the one of the Bramaisms, but the Asiatic and African nations, being under the dominion and rule of an oppressing priest religion, their art is, therefore, more or less typically stiff, without any developing progress.

The liberty of the Greeks created the first true art from small, typical, narrow commencement to a perfected beauty. The Romans were, in art and religion, essentially dependent on Greek influence, but by both were taken up in their peculiar national form.

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MAKING PROMPT PAYMENT.

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THE most celebrated carpenter I ever heard of, was the Carpenter of Rouen. You never saw him, but you have seen the ruin of the carpenter, perhaps.—*Builder and Woodworker.*

No, we never did. We never saw a good carpenter ruin anything, but we have seen fellows who pretended to be, that did ruin everything they undertook, including their own and the prospects of good carpenters for profitable jobs. We suppose this class is not common to any one city, but may be found in Rouen, Paris, London, Amsterdam, New York, and all other cities. We certainly don't need any "Rouen" or "ruin" carpenters here.—*Southern Lumberman.*

Remember on the occasion of our successor taking charge of this Journal, we propose to publish entire a delinquent list of subscribers. Prompt attention to paying your back subscriptions is absolutely essential.

A COUNTRY SKETCH.

Spoiled Buildings—Owners' Follies and Griefs.

OWNERS are often brought to grief by their mistakes in the means adopted by them to avoid the expense of an architect, and obtain plans for their buildings. Sometimes they know, or become acquainted with some *honest mechanic*, to whom they are induced to intrust the whole matter of plans, specifications, and construction, only to repent it when it is too late. The party to whom the proposition is made, elated with the splendid opportunity opened up to him, and full of conceit in his own abilities, uses all possible means to secure and consummate the arrangement, and plans are made—*and such plans!*—and the work progresses. Once under way, there is no stopping it, and step by step the owner discovers and realizes, one after another, grievous errors, which are difficult to remedy. And when the building is completed, he simply feels disgusted. Imperfect arrangement, poor construction, homely design, and incurable defects crowd upon him, as the reward of his folly; and regrets for his error haunt him day and night, but it is too late—the building is erected, and he must endure its defects. But the first general dissatisfaction is primary and bearable, compared with after experiences in their various details. The plumbing work has, perhaps, been done by some tenth-rate man—some spoiler of good materials—for there are, in San Francisco, some of the least qualified men to be found in the United States, who call themselves "practical plumbers"—men who have not the slightest idea of what constitutes a really good job, not to say first-class. Nor would the payment to such men, of ten times the value of the work done, secure skillful workmanship at their hands, for the simple reason that they do not possess, and therefore cannot practice, mechanical skill and abilities. And owners who employ this class of plumbers are unfortunate, indeed. But to continue, defects show themselves in all connections. Pipes are put in of insufficient capacity, wastes entirely too small, and sometimes so cramped in making bends as to diminish their practical size one-half; "tinker" instead of "wiped" joints; leaks at various points and places; wetting and spoiling ceilings and walls, and not unfrequently carpets have to be torn up to escape the deluge. All this is followed by a still more serious defect—one affecting the health and lives of the occupants, viz., imperfect or insufficient traps, pipe ventilation, bad sewerage, etc., resulting in the distribution of the vicious and poisonous sewer gases through the building, and, as a consequence, the ill health, and sometimes *premature death* of loved ones. The intended pleasant home is thus transformed into a mere fume-castle, a disease-breeding charnel-house, not fit for human habitation. All this is followed by continual repairing, tearing up floors, removing finishes to get at concealed places, etc.; and for all this the owner has been made to pay a good round price, amounting to more, as a rule, than it would have cost him to have secured a good building, erected under the superintendence of a trustworthy architect. But bad plumbing work is not the only serious defect which so often occurs in such cases. The foundation is often wholly insufficient, and settling occurs, with any quantity of ugly cracks in the plastering. The structure is perhaps so poorly braced that the edifice trembles with every wind that blows; and, when the rains fall, leaks are found at every exposed window and opening, and the roof itself yields its proportion of internal wettings. But we will not continue our enumeration of "bad things," as to do so would consume columns of space. Such cases are known to all architects, and many a "served him right" is indulged in, upon the principle that a competent physician laughs at the sufferings of a patient whose pains and agonies result from self-treatment or quack practice, and the educated lawyer smiles when his client gets himself into a *terrible fix* by intrusting his case to some pettifogger, or who tries to work out the intricacies and problems of law by his own self-conceived legal ingenuity.

Landlord's Liability for Bad Drains.

The old question of the responsibility of a landlord for the defective drainage of a house which he had let to a tenant came again before the High Court in the case of Bartram *vs.* Aldous, which was the first case tried before Mr. Justice Grantham. The case is specially instructive, as the fact of the house being in an unsanitary state was not disputed. Evidence, which was admitted to be accurate, was given to show that the waste-pipes from the bath-room opened direct into the main sewer, and that the house-drains were untrapped. The natural consequence was that sewer-gas escaped into the house, and the tenant's family became ill. Under these circumstances he refused to pay two quarters' rent which was due, and brought a counter claim for the damages which he had sustained through becoming tenant of a house which was uninhabitable.

By English law a landlord who lets a house does not ordinarily warrant that it is fit for habitation. The tenant is supposed to make inquiries, and ascertain the material facts for himself; and if he makes a bad bargain, so much the worse for him. The fact of the drains being defective, of itself, affords no answer to a claim for rent, and Mr. Aldous was obliged to rely on a representation which he alleged the landlord to have made at the time of letting the house, to the effect that the drains and water-supply were both perfect. On the question of this representation having been made there was a conflict of evidence, and the jury gave their evidence in favor of the landlord. Whether this verdict was right or not is a matter which does not concern us here. The case shows plainly that a tenant of an ordinary house cannot, *after he has made his bargain*, impose on his landlord the additional liability of providing proper drains. There are, no doubt, exceptions to this rule. It has been decided that a landlord who lets a *furnished* house, impliedly warrants that house to be fit for habitation, and that he may therefore be liable to pay damages consequent on its not being so. The Housing of the Working Classes Act of last year, 48 & 49 Vict. c. 72, sect. 12, also provides that in any contract "for letting of habitation by persons of the working classes, a house or part of a house, there shall be implied a condition that the house is at the commencement of the holding in all respects reasonably fit for human habitation." Neither the Legislature nor the judges have seen fit to incorporate any such condition into contracts for the letting of houses of a superior class, and there the intending tenant must protect himself. This he can do by having the house surveyed before he becomes tenant, when, if his surveyor is competent, any gross sanitary defects are likely to be detected. He might also insist on the insertion in his lease of a covenant by the landlord that the drains, etc., are, and shall be kept in a proper condition. Such a covenant is at present unusual, and the landlord's solicitors would probably for that reason object to its insertion. But if the intending tenant insisted, and the house was in such a state as to comply with the requisition, the covenant would most likely be conceded; if the landlord's agents persisted in refusing, that fact should certainly be sufficient to raise a suspicion that the house was not altogether fit for habitation. Too often landlords let, and tenants take houses without giving any real thought as to their sanitary condition. Greater attention at the time of letting to the duties and to the risks which they respectively incur, would save many disputes and much subsequent unpleasantness, and would be beneficial to the health of the community.—*Sanitary Record.*

La Semaine des Constructeurs publishes a short note upon a matter of considerable importance to builders. So far as we can gather from the note, a contractor agreed with the officials of a certain town to construct a building in accordance with plans and specifications offered him on behalf of the town. He carried out his contract to the letter, but after the building was completed it showed signs of weakness, and the contractor was called upon to make the work good. He defended himself on the ground that he had faithfully carried out the plans and specifications, and proved that he had done so; but the highest court in France decided that, notwithstanding this, he was bound to make good the defects which had appeared in the building, for the reason that he had neglected to inform the town officials of the improper character of the materials specified, and to warn them that it would be impossible to do good work with them. This decree, which was given by the Council of State on the second day of last April and is reported in the journal *Droit* of the eleventh, will surprise those contractors who think it business-like to conceal their knowledge of defects in plans or specifications in the hope that they will be able to get a good price later for extra work in changing the work done in accordance with imperfect documents, but there can be no doubt that it expresses the general policy of the law. As applied to architects, this policy requires that the client should be clearly informed of the inconveniences or risks which would be incurred in following out his instructions, if the architect, knowing of these inconveniences, would free himself from responsibility for them. Before the law, the architect is always the adviser of his client, and is bound to advise him faithfully. In the absence of explicit instructions, and even, to some extent, in opposition to them, he is clothed with a very extensive authority in directing the conduct of the works which are placed in his charge, and in return for the discretion which the law allows him he is obliged to assume a proportionate responsibility. The client may, in unmistakable terms, take this responsibility away from him, but interference with the architect's work, and even the giving of contrary orders, will not have the effect of shifting the responsibility for the building from the architect to the client unless the former takes care to warn his client against the possible consequence of his actions, so far as he can foresee them.

Paint, Putty, and Piety.

"Mr. Editor: I wish you would say a word about putting one's religion into one's work. Last year I built a new house, and employed a Christian man to paint it. He makes good prayers at the prayer-meetings, and utters a good word of advice to the young. But in his work he failed to exercise the same degree of moral sentiments, and did not fill up the nail holes in many parts of the work, and did not paint the top edges of the upper story, and other places which could not be seen from below, but which as much, or more, needed painting. He took care to slight the work just where he thought it could not be discovered, and the nails not being puttied, they caused leaks, which led to a detection of his neglects. I have discounted that man's piety and prayers, ever since. Perhaps this painter treated me as he did because I am a woman and a widow. Any way, I prefer Christians who fill up the holes with putty, and paint the top edges.

"Lady Friend.

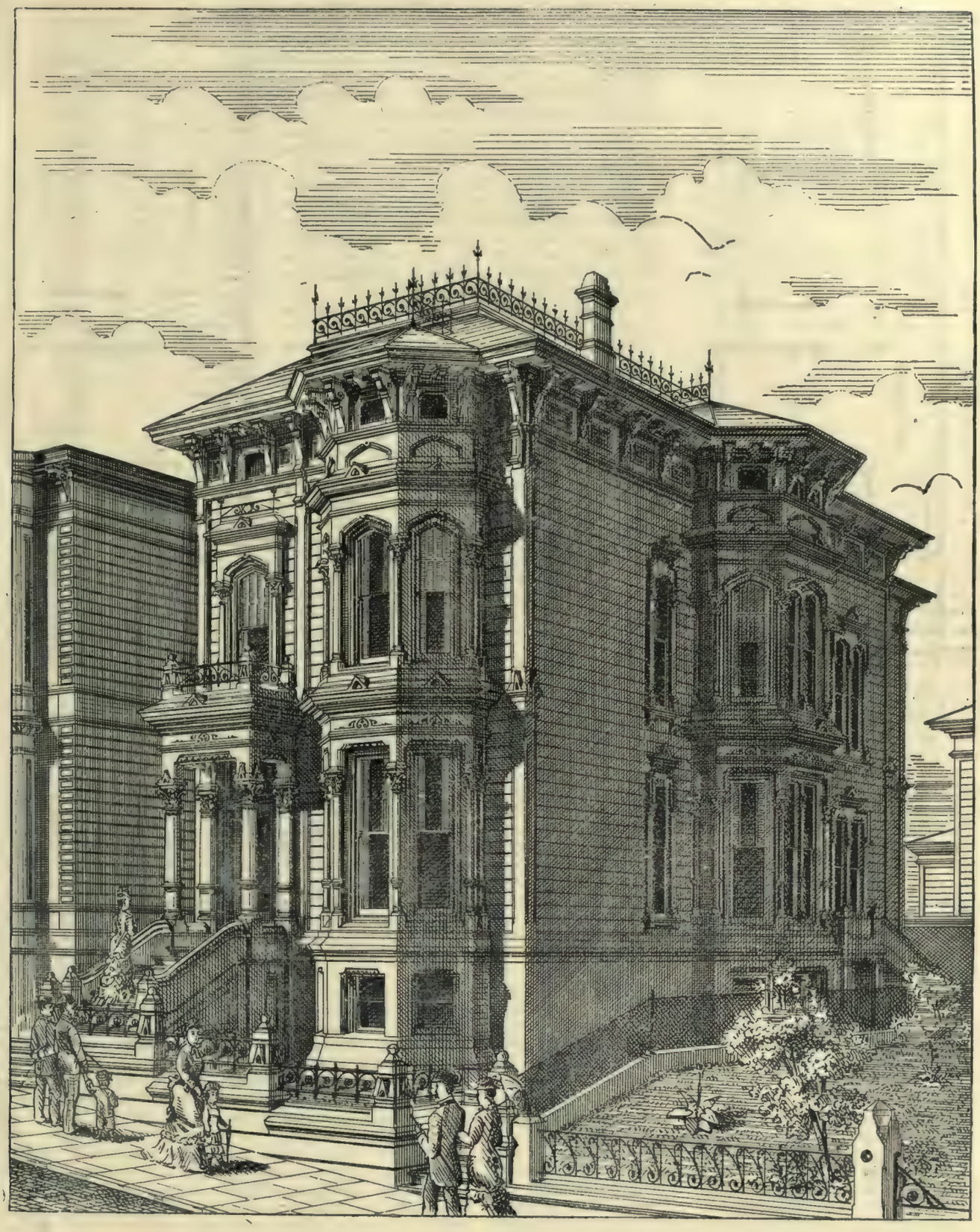
"Our lady correspondent has said quite as effective words about putting one's religion into one's work, as we could possibly say. And our friend is right; you Christian painter, how could you let those nail holes go unputtied, and those top edges and places which you imagined would not be detected, go unpainted? Was it Christian-like? Was it manly? Was it honest, particularly toward a woman—a Christian sister? We advise painters who pray and talk well, to putty and paint well; for right doing is better than right talking and loud praying. We want Christian painters who will fill up the holes with putty, and paint well the upper edges." (An Eastern editor's criticism on above.)

And the California Architect and Building News adds: This is severe on Christian painters. By-the-by are all the painters in San Francisco, Christians? If none but Christian painters leave nail holes unputtied, and upper edges, roof gutters, and parts not easily seen, go unpainted, Christianity is certainly in the ascendancy among San Francisco painters, and extensively represented in our midst. The lady brings no charges in reference to the character of stock used by the Christian painter. It may have been pure lead and oil. San Francisco Christian (?) painters sometimes don't use those ingredients—soap, potash, whiting, etc, are cheaper, and owners often want cheap work, and they get it. We have known painters in this city whose Christianity and piety have not been brilliant nor self-evident, and their prayers—sort of ejaculatory expressions—prefix to sentences, beginning with the letter d, who have—well, never mind the rest, we won't repeat, they call it paint, painting, and pure stock!

A very simple test to ascertain whether the air of any apartment contains sewer gas is made by saturating unglazed paper with a solution of one ounce of pure lead acetate in half a pint of rain water; let it partially dry, then expose in the suspected air. The presence of sewer gas in any considerable quantity soon darkens or blackens the test-paper.

Two ounces of soda dissolved in a quart of hot water will make a ready and useful solution for cleaning old painted work preparatory to repairing. This mixture, in the above proportion, should be applied when warm, and the woodwork afterward washed with water to remove all traces of soda.

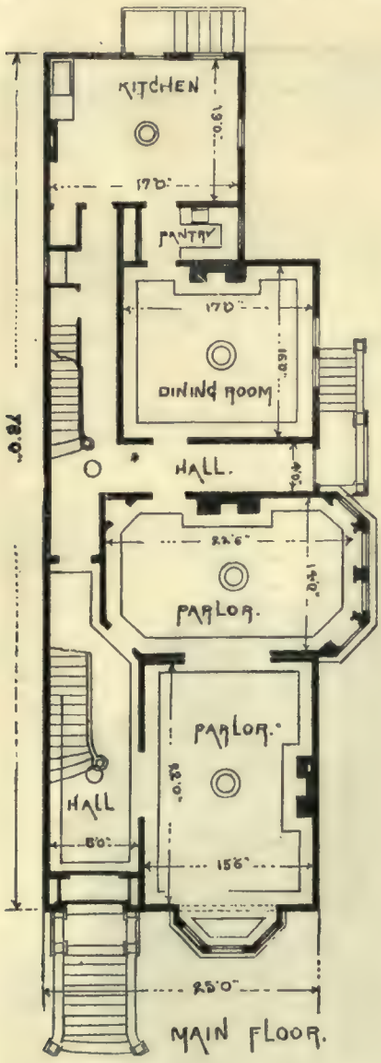
We carry a full assortment of architectural publications, and are prepared to forward to any address copies of any work published, at lowest market price.

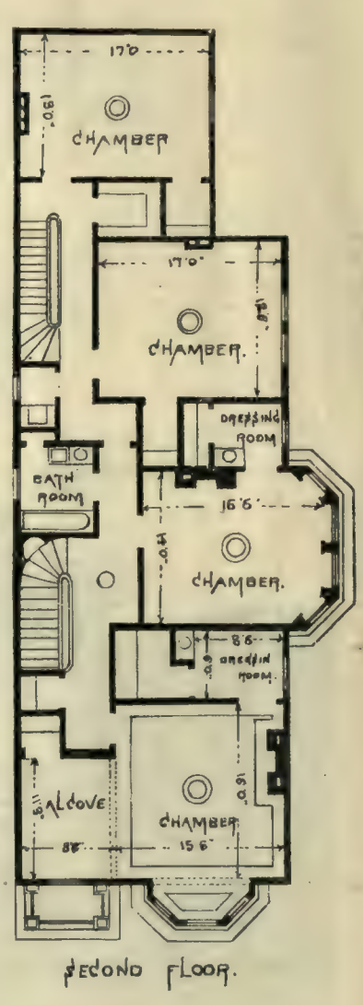


A REPRESENTATIVE SAN FRANCISCO DWELLING.

THE above cut and accompanying plans on opposite page aptly represent the average architecture of a dwelling intended for those who move in the well-to-do walks of life. Although the design is intended for any location, still the building appears to better advantage when placed on the side of a hill. The exterior is in perfectly good taste, without any attempt to clap on the *balderdashnian* styles commonly but erroneously styled as Eastlake, Queen Anne, etc. When finished as per plan, the beholder is at once struck with the solidity, clean-cut finishes, and the general well-to-do appearance of the structure, thus establishing at once the owner as a practical business man.

The general plans, and arrangement of the rooms on the different floors, will well repay a careful study. The first thing observed is that no waste room exists in the house; no dark closets to bother the careful housewife; in fact, while studying the general plans, you are at once impressed with the general compactness in the whole arrangement. This feature especially recommends itself to the lady of the house, as it requires much less work to keep the various rooms in the *shining dollar order*. Notice the basement; it extends under the whole house, and is





amply lighted in every portion by numerous windows judiciously placed. Servants have a careless fashion of disposing of old boots, bottles, worn-out umbrellas, and all sorts of trash in the dark holes of the basement; but in the plan as laid out, no chance exists for receptacles of the stuff that should only find a place in the ash barrel that is emptied regularly by the proper person.

Should it be desired to heat the house by steam or hot water, ample room exists in basement for a furnace room.

The billiard room is large and convenient. Should more light be required, extra windows can be placed each side of the chimney. There is also ample room for a children's ten-pin alley between the billiard table and the hall partition. If so used for this purpose, care should be taken to have the flooring of extra good quality.

The partitions in rear of the billiard room can be either plastered, or made of tongued and grooved boards planed both sides. The latter gives more room and answers every purpose.

The main floor plan is at once suggestive of compactness and convenient arrangement. Should it be desired, the sliding doors in parlors may be done away with, and the opening arranged for a *portiere*. While we do not advocate the use of portieres between a hall and parlor or dining-room, still between two such parlors as shown in engravings, we think they are much preferable to sliding doors. The latter will every once in a while get out of order, but the former having none of its portions concealed from view, will last as long as—a good housewife informs us—as long as the stuff of which it is composed is in fashion. According to this lady's authority, portieres are like fashions in dresses, to be changed as often as the purse will allow.

The dining-room is so situated that no smell from thence can permeate into the parlors, the intervening hall proving an effectual barrier. The latter is an especial feature in the arrangement of the main floor; by its use you have access to yard, basement, parlors, and upstairs; the door in main hall effectually divides the front and rear sections, and cuts off completely all danger from the smell of cooking, etc., ascending to the second floor. All such doors should be provided with self-closing springs, so as to guard against their being accidentally left open by careless servants or the future heirs of the master of the house. No cornice is shown in rear hall, that being a matter solely regulated by the owner's purse. The kitchen is well lighted, and is handy of access from hall and yard and also convenient to the basement, which is reached by stairs both from outside and inside. Pantry is large, and is provided, as shown, with a sink, shelves, and drawers.

Much care and study have been exercised in the arrangement of the second or bedroom floor, so that suitable and convenient spaces may be had for beds, bureaus, chairs, tables, etc. Many designs have been presented to us as individual owners' studies, representing plans that would suit said owner's ideas to perfection, and yet, after a little talk, they have been either torn up or thrown into the waste basket. The *first* duty appears to have been either the *last*, or not thought of at all, viz., the arrangement of the room for the proper disposal of the furniture necessary for the uses to which the room is to be subjected. Take the front chamber in plan. The alcove at once suggests the proper place for a bed. The largest size of a double bed is not over 5 feet in width. The alcove is 11 feet 3 inches in length. Thus over 3 feet each side of the bed is left for such purposes as the occupant of the room may desire. Between the chimney and bay window there is a suitable space for a bureau, organ, book-case, lounge, or any other article of furniture. The best place for a bureau is in the dressing room between the window and wash-stand. If placed there, the space in front room as mentioned can be used for a large looking-glass, by which ladies can see their full dress uniform to advantage. It will also be noticed that room on the walls is abundant for the hanging of pictures, etc.

All the other rooms are equally convenient, being so arranged that, when furnished, they will present an appearance at once indicative of home comforts.

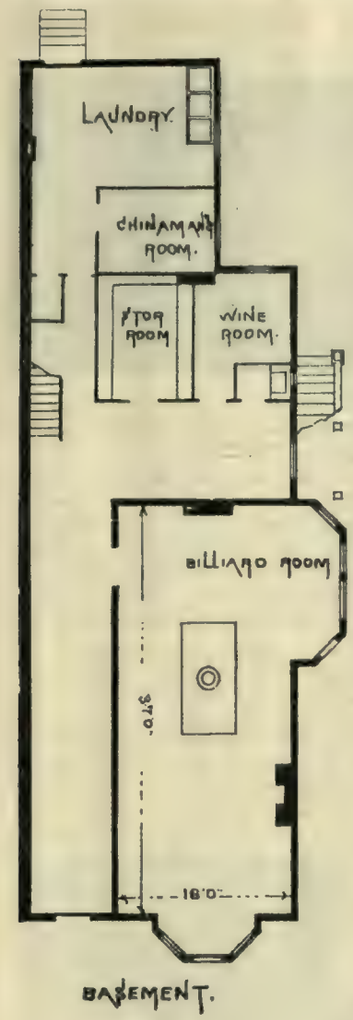
The attic is large, well lighted, and ventilated. The large room can be used as a dance hall or for any other purpose which suggests itself to the mistress. The tank room—easy of access—is located in one corner, thus doing away with the hot water boiler in kitchen. As arranged by us, the tanks present a vast superiority over the copper boiler; plenty of hot water is always to be had whenever a reasonable fire is kept up in the range. A window in the room gives light, and—what is absolutely essential—plenty of air, so that the water may be thoroughly aerated.

Having presented a general description of the house as shown by the engravings, we will add a few hints suitable for those intending to build or occupying a house after its erection.

When you have determined to build, the first thing to be done is to go to the best architect within your reach and consult him as to the most expeditious method of reaching the result desired. Do this before consulting any builder or contractor, and you will invariably find it to your advantage. The reason is plain. The architect stands as a disinterested third party between you and your mechanic, he having made a special study of the arrangement and convenience of modern structures, and, being constantly employed in designing such, is better versed than any one else you could find. In selecting your plan, give the architect a short synopsis of what you consider best adapted to your wants, and the amount you desire to expend; then let him work the design up and submit it to you for inspection, which will enable you to see and correct all which does not suit you, and your house, when completed, will come up to your expectations.

Painted woodwork may be classed among the necessary evils of house decoration. No one in his sober senses will put paint on good woodwork if he can get an equal effect by the use of natural wood. But the costliness of all hardwood, and especially the expense of working it, renders the use of pine practicably inevitable.

A kitchen and its belongings should not be planned solely for the comfort or ease of the cook, but for the general health of the household, for the purer the air below the purer will that be which circulates above.



BASEMENT.

MORTAR and paint may be removed from window glass with hot, sharp vinegar.

GRAINED wood should be washed with cold tea, and then, after being wiped dry, rubbed with linseed oil.

REMOVE flower-pot stains from window-sills by rubbing with fine wood ashes and rinsing with clean water.

STRONG brine may be used to advantage in washing bedsteads. Hot alum water is also good for this purpose.

OIL-CLOTHS should have a coat of varnish applied once in six months, after being scrubbed with hot soap-suds and thoroughly dried.

PLUSH goods and all articles dyed with aniline colors, faded from exposure to light, will look as bright as ever after sponging with chloroform.

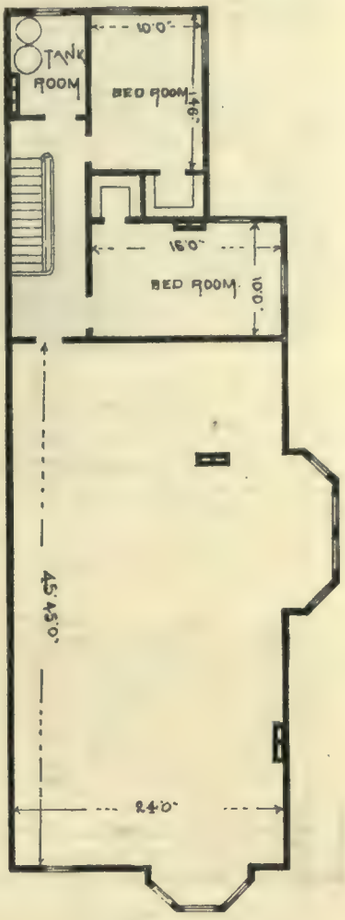
SOOT falling on the carpet from open chimneys, or from carelessly handled stove-pipes, if covered thickly with salt, can be brushed up with out damage to the carpet.

CARPETS should be thoroughly beaten on the wrong side first and then on the right side, after which spots may be removed by the use of ox gall or ammonia and water.

WHOLE cloves are now used to exterminate the merciless and industrious moth. It is said they are more effectual as a destroying agent than either tobacco, camphor, or cedar shavings.

A GOOD moth powder is made of lupuline (ground hops) one dram; Scotch snuff, two ounces; camphor gum, one ounce; black pepper, one ounce; cedar sawdust, four ounces. Mix thoroughly and strew among the furs and woolens to be protected.

FURNITURE needs cleaning as much as other woodwork. It may be washed with warm soap-suds quickly, wiped dry, and then rubbed with an oily cloth. To polish, rub it with rotten-stone and sweet oil. Clean off the oil and polish with chamois skin.



ATTIC.

A CHEAP paint for a kitchen floor, that will save much work in cleaning, can be made with five pounds of French ocher and a quarter of a pound of glue dissolved in two quarts of boiling water; then apply enough boiled linseed oil to make the paint flow easily from the brush.

WHEN hard-finished walls have been calcimined, the soiled coats should be washed or scraped off before a new one is put on. This is the most disagreeable part of the process. The furniture should be covered, as the lime makes spots that are removed with difficulty, especially upon black walnut.

TO CLEAN marble the following is recommended: Common soda, two pounds; powdered pumice-stone and finely powdered chalk, one pound each. Pass through a fine sieve and mix to a thin paste with water. Rub it well all over the marble and the stains will be removed; then wash the marble over with soap and water and it will be as clean as it was at first.

BUILD with seasoned timber, or you will build to your own discredit and others' loss.

AFTER the dust has been thoroughly beaten out of carpets, and they are tacked down again, they can be brightened very much by scattering corn meal mixed with coarse salt over them, and then sweeping it all off. Mix the salt and meal in equal proportions.

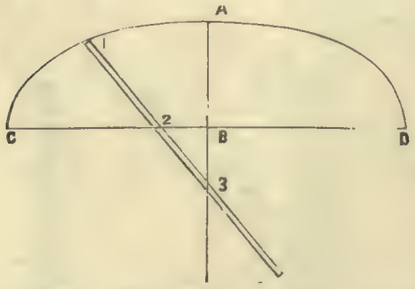
Ladies the Best Planners.

IN many particulars in connection with the comforts and convenience of family residences, the mistress often displays better judgment than the master. Nor is this fact at all strange. If the lady is observant and intelligent, her continued experiences and contact with the general arrangement of home more fully qualify her to comprehend alike the convenient and practical, and the objectionable arrangements met by her in home experiences, and gathered in the course of her visits among friends. Sometimes men are obstinate, and refuse their wives the privilege of any say in the matter—following their own views in all things; but, as a rule, better and more satisfactory results are reached, when the opinions of an intelligent wife are at least consulted. Although some architects "don't want anything to do with the women," yet it is questionable whether every man in the profession who enjoys the patronage of female clients, either as wives or sole owners, has not received from them many sensible and practical suggestions; and it is perfectly reasonable that it should be so; for while the architect may fully understand the theories and principles of architecture in every phase and department, he cannot understand the detail workings of his plannings, except so far as he may have "tested them" in some special manner; while the women-folk are brought in hourly contact with all defects or perfections that exist, and are thereby the better qualified to at least express an opinion. In addition to this, it is an incontrovertible fact, that many ladies enjoy much better general ideas of planning buildings than do their husbands; not because the husband lacks good intelligence and business capacities, but for the reasons already stated. Home and house experiences on the part of the wife, and the intense desire and determination on her part to have everything just as it should be, naturally qualify and leads the mind to right conclusions. With all the objections urged by some, to women interfering with such matters, if the many little details of occurrences that transpire during the period in which the "talking over" of plans is indulged in between man and wife could be discovered, perhaps there would be but few well-arranged houses found not to a large extent shaped by the mind of woman. For from the hour when the husband reveals an intention to build, the wife, as a rule, enters heartily into the proposition, and she at once commences to study up her part, not only so as to secure for herself all of the little conveniences of arrangement which would never be thought of by the husband, but to make the house generally as perfect in detail as the amount of money to be expended and "best judgment" will accomplish. Consequently, in the repeated discussions which ensue, the wife introduces this, and that, and the other feature, until by the time a final conclusion is reached, first thoughts are materially changed, and, to a greater or less extent, the wife's ideas and suggestions permeate almost if not quite every arrangement of the building.

We will be pleased to receive for publication in this column items of information in regard to practical ideas connected with the mechanical part of the building trade. We especially invite suggestions from apprentices and young mechanics.

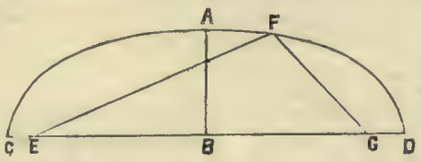
Business Manager Architect: Will you please illustrate a method for drawing the *half oval;* one that will apply to making an elliptic on a large gateway? Palo Alto Farm.

Answer.—There are many methods by which the required curve can be made. One of the oldest, as well as simplest, we present below:—



Let C D be a given distance, and A B a given height. Take a straight edge; from the end of this set off 1 3, equal to the distance C B, and again, set off 1 2, to equal A B. Now lay the straight edge on the line C D, with 1 at C. Then, with a pencil, make any number of points, all of which will be in the curve, by moving the straight edge, keeping 3 on the line A B, and 2 on the line C D.

Another simple way is represented by the adjoining cut:—

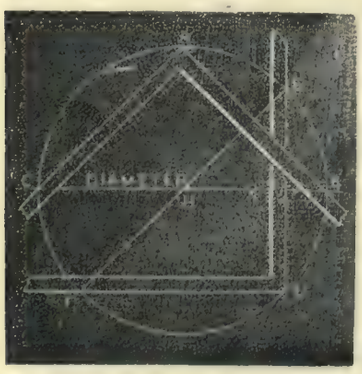


C D being any distance, A B any height. Mark two points on C D, as at E G, to correspond to the distance C B or B D, using A for the center. In these two points put a pin or nail. Tie a string at E, stretching it over the point A, and fastening at G. Now, with a pencil in which a groove has been cut, to prevent slipping, sweep the curve.

Let no building workman be too proud to take a hint from the humblest laborer that attends him, for the experienced looker-on betimes sees more than the doer.

Artificial, like natural drainage, is governed by gravitation, and the absence of a proper fall in either is as opposed to nature as a swamp is to health.

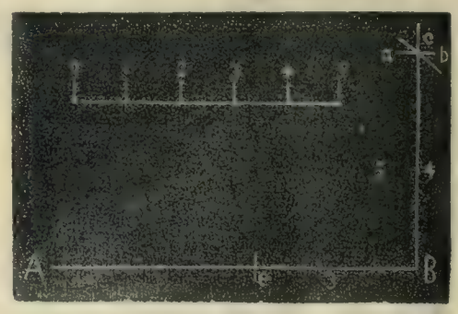
How to find the diameter and center of a circle with the square:—



This cut shows at a glance how the diameter and center of a circle can be found. Place the square as shown at A B C. The line B C will be the diameter. Place the square so that the point of the square A will touch any other point of the circle, as at D; draw E F. The point of intersection, H, will be the center of the circle.

J. C. is informed that no regular rule can be laid down for the projection of cornices on buildings. Much depends on the style of architecture employed. To use a general rule, however, we might say that for a building seventy feet in height, the proper projection should be about thirty-six inches.

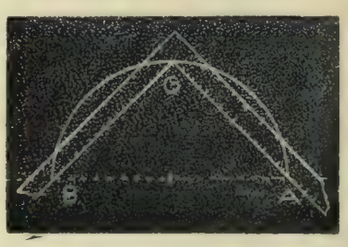
A correct mechanical method by which two fences can be set at right angles to each other:—



From any scale of equal parts, as that represented by the line D, which contains 5, set off from B, on the line A B, the distance B e equal to three of these parts; then from B, with a radius equal to four of the same parts, describe the arc a b; also from e as a center, with a radius equal to five parts, describe another arc intersecting the former in C. Lastly, join B C; the line B c will be perpendicular to A B.

This mode of drawing right angles is troublesome on paper; but in laying out grounds or foundations of buildings it is often useful; since, with a measuring rod, line, or chain, perpendiculars may be set out very accurately. The method is demonstrated thus: the square of the hypothenuse being equal to the sum of the squares of the other two sides, the same property must be inherent in any three numbers of which the squares of the two lesser numbers added together are equal to the square of the greater. For example, take the numbers 3, 4, and 5; the square of 3 is nine; the square of 4 is 16; 16 and 9 added, make 25, which is 5 times 5, or the square of the greater number. Although these numbers, or any multiple of them, such as 6, 8, 10, or 12, 16, 20, etc., are the most simple and most easily retained in the memory, yet there are other numbers, very different in proportion, which can be made to serve the same purpose. Let n denote any number; then n^2+1, n^2-1, and $2n$, will represent the hypothenuse, base, and perpendicular of a right angle triangle. Suppose n equal 6; then $n^2+1=37$; $n^2-1=35$; $2n=12$. Hence, 37, 35, and 12, are the sides of a right angle triangle.

How to make a circle with a square:—



Drive in a nail at the points A and B. It is better to use a "French" nail, as, being round, the square slips easily. The nails evidently cannot be farther apart than the length of the "*tongue.*" Place the square in the position indicated in the cut; and with a pencil held firmly in the crotch at C, and the square kept on the nails, a circle can easily be drawn.

A simple way to describe an equilateral triangle within any given circle:—

Upon any given point A in the circumference, with the radius A S, describe the arc B S F. Draw B F. Make B D equal to B F. Join D F. B D F will be the equilateral triangle required.

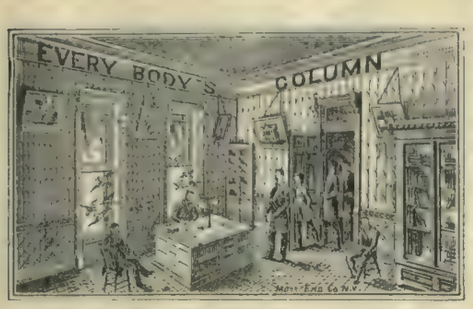
Friend Architect: Please tell me how to compute the number of joists it takes in a building when spaced sixteen inches from centers? Amateur.

Answer.—Multiply the length of the building in feet by 3, and divide the product by 4. For instance: the building is 124 feet long = $124 \times 3 = 372 \div 4 = 93$, the number of joists required. This rule is applicable, no matter what the thickness of joints may be, as long as they are spaced 16 inches from centers. Allow one extra, except when the end sills are utilized in place of joist. Of course deduct when the latter is the case.

Business Manager Architect: How many pounds of lath nails does it take to put on 1,000 laths?

Answer.—There are 420 lath nails in a pound. So 11 pounds is what you will require for 1,000 laths.

ASKED, ANSWERED, AND COMMUNICATED.



☞ Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

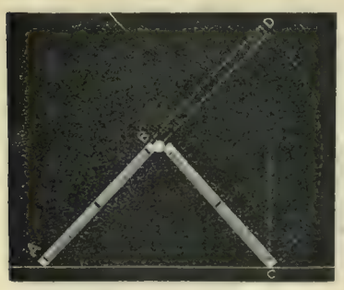
Free to All.

THE columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to assume that we have passed the reef of human liability to err, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assure—that whatever of error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

EDITOR ARCHITECT: What is the exact height of Mount Diablo?
OAKLAND.

ANSWER.—According to Professor Davidson, it is 3,843.63 feet above tide level.

TO SQUARE a board with a pocket rule, no square being necessary:—



Apply the rule on the board as shown by the engraving. Make a dot at the point C. With the left hand hold firmly that part of the rule denoted by A B, and with the right hand extend the rule as shown by the letters A B D. Draw a line through the points C and D, and it will be found to be exactly at right angles to the edge of the board. It is evident that the above method may be employed, using the rule at any angle.

The Chinese Must Count.

THE Chinese have a most ingenious method of reckoning by the aid of the fingers, performing all the operations of addition, subtraction, multiplication, and division, with numbers from one up to 100,000. Every finger of the left hand represents nine figures, as follows: The little finger represents units, the ring finger tens, the middle finger hundreds, the forefinger thousands, and the thumb tens of thousands. When the three joints of each finger are touched from the palm towards the tip, they count one, two, and three of each of the denominations named. Four, five, and six are counted on the back of the finger joints in the same way; seven, eight, and nine are counted on the right side of the joints from the palm to the tip. The forefinger of the right hand is used as a pointer. Thus, 1,234 would be indicated by first touching the joint of the forefinger next the hand on the inside; next, the middle joint of the middle finger, on the inside; next, the end joint of the ring finger, on the inside; and finally, the joint of the little finger next the hand, on the outside. The reader will be able to make further examples for himself.

IN putting up your screen doors and windows be very particular to have a little hole in one corner so that the flies can go outdoors when they get tired of being inside.

WAXING FLOORS.—The following is a good recipe for waxing floors, and the method of application. Stir twenty-five parts of shredded yellow wax into a hot solution of twelve parts of pearl-ash in soft water. Keep the mixture well stirred until the effervescence ceases, then remove it from the fire and stir in twelve parts of finely-ground yellow ocher. It may now be poured into cans to cool. When wanted for use, one part of it is dissolved in five parts of boiling water. Apply warm with a paint brush. It dries in a few hours, when the floor is polished with a floor-brush, and afterward wiped with a woolen cloth. It is said this wax coating will last for six months with ordinary use.

Queen Anne Hodge-Podge.

Architect—Well, I declare that is a pretty fair house plan for an amateur, only you have left no space for stairways and closets. Did you make it yourself?

Prospective Builder—Yes, but the only thing that puzzles me is to know what style of cottage it is. It is not Gothic, nor Italian, nor—

"No, it is absolutely nothing. As to style, it is simply a meaningless hodge-podge, to be frank with you."

"Well, what shall I call it, have you no name for hodge-podges?"

"Oh! yes. We call 'em Queen Annes."

THE VERY LATEST.—A man out West bought a bedstead, the wood of which was so green that one warm spring day it broke out all over with little groves of waving branches. In autumn the children picked the chestnuts from the side pieces, and the next spring tapped the headboard for maple sugar.

DON'T.—Don't call a very large, strong, sinewy man a prevaricator. If you are sure he is a prevaricator, hire another man to break the news to him.

GLYCERINE GLUE.—A German chemist has discovered that the strength of glue is very greatly increased by the addition of one fourth as much glycerine as glue. Glycerine has many other uses, among which one of the least known is its property of removing pencil marks from paper in a very perfect manner. It may also be combined with starch and plaster of Paris, to form one of the most durable cements for various kinds of apparatus.

THERE is nothing so tends to shorten the lives of old people, and to injure their health, as the practice of sitting up late, particularly winter evenings. This is especially the case where there is a grown-up daughter in the family. This sanitary item is published at the request of several young men.

TO REMOVE iron taste from new kettles, boil a handful of hay in them, and repeat the process if necessary. Hay water is a great sweetener of tin, wooden, and ironware. In Irish dairies everything used for milk is scalded with hay water.

A RUBBER cushion under the legs of a work-bench will deaden the sound of hammering so completely that it will not disturb the inmates of adjoining rooms.

WHAT has become of the straw lumber which, three or four years ago, we were told would revolutionize the lumber business?

ONE of the most important features in an interior arrangement is the actual and relative height and width of doors and windows. The question is whether the apparent proportions of apartments cannot be greatly modified by the treatment of the necessary openings. A window in the center of one side of a room gives more light than if at one side of the center, but it has the effect of shortening the length of that side. The same is true of doors in similar positions. The higher a window is the more light it will give, but the lower the room will appear. In doors, nothing is gained by increasing the height beyond a proportion to the width that shall prevent a stunted appearance. Their relative height to that of the windows is a nice question of balance that can be best determined by experience.

WOOD may acquire an oak, walnut, or cherry tree color by staining it with ordinary tincture of iodine diluted with spirit until the exact shade is obtained. White shellac must be added to the iodined solution if the stain is to be made permanent, or the wood after the stain is applied may be French polished. The iodine may be laid on with a rag or a brush.

IF stove polish is mixed with very strong soap-suds, the luster appears immediately; consequently there is less dust to breathe and blacken.

EDITOR ARCHITECT: How do you cut a hip-rafter? and oblige
SONNY.
Sacramento.

Well, Sonny, we have always used a *saw* for that performance; but if you want to know a *rule* by which you can cut any kind of a rafter, we will be most happy to inform you.

Sketch of Country House.

THE accompanying sketch will be found a very desirable plan for an attractive farm-house building. No attempt has been made to pile on a lot of mannerisms, in order that the outside appearance may be showy. By a study of the plan, it will be noticed that the house can be thoroughly ventilated by through drafts in every direction. This is a luxury to be appreciated by those living in the interior of California.

The design shown will freely admit of successive additions, in case they become necessary, without marring the beauty of the original plan. In fact, these, when properly designed, add to the variety of outline, and its beauty of light and shade.

To build well, and to do so at a low price, is always desirable; and to build artistically, imposingly, and attractively, does not imply elaborate finish or profuse ornamentation. Sandpaper and decoration will never make an ill-proportioned building attractive to an educated taste, while a rough exterior of harmonious lines and forms will pass current with those who have an eye to the artistic.

WE understand that M. de Lesseps has succeeded in having a large part of his new loan of one hundred and twenty million francs taken up, mainly, it is said, by females of the peasant class. If half that is said about the real condition of affairs at the Isthmus is true, this enterprising enthusiast is likely to prove one of the greatest moral scoundrels of the age, and we do not envy him the objurgations which, when failure is at length acknowledged, will shower upon him. But there are some things which even the magnetic de Lesseps cannot accomplish, and we are not surprised that in face of the doubtful condition of his undertaking at the Isthmus of Panama, the Tunisian Government has refused to allow him to undertake the flooding of the chotts that lie between the coast of the Mediterranean and the great desert to the south of them. M. de Lesseps estimated that the cost of digging the canal that would be necessary for this immense irrigation scheme would be forty million dollars, which he probably looks on as a mere bagatelle, but which the canny Africans seem to believe could hardly be raised by a man who already finds it hard to raise money for the prosecution of an enterprise in which the whole world is interested, and of which the bonds and securities can be bought in any market, if any one thinks them worth the purchase.—*American Architect.*

A LITTLE paragraph has been going the rounds of the technical journals about the painting of tin roofs, which seems to contain a valuable suggestion. Most persons suppose that a tin roof ought to be left exposed to the weather for a month or so, until the iron of the plates has corroded enough to cover the tinned surface with a tinge of rust, probably forced through the pores of the coating. The theory of this notion seems to be that paint will not stick to a fresh surface of tin, which is apt to be greasy as well as smooth, and that the slight roughness given by the rust is of value for holding the paint; but the writer of the paragraph in question believes that if painting is delayed until oxidation has begun, the action continues beneath the coating, until the plates are destroyed, while a layer of paint put on over fresh plates would defend them for an indefinite period from the commencement of oxidation. There is certainly a possibility that this view of the matter is the correct one, and architects, who have many opportunities for observing the weathering of roofs, might do their fellow-citizens a service by investigating the facts with care.

MANY a man who has failed to make a home, or, strictly speaking, a homestead that his children can love, has been doomed to see them leave it, and seek in other places, and amid new surroundings, these satisfactions that have been denied them in what should have been the dearest spot on earth. The charm of a beautiful home would go far to kindle and keep alive that enthusiasm which sustains the soul, enabling it to triumphantly contend against discouragements and obstacles.

THE most afflicted part of the house is the window. It is always full of pains, and who has not seen more than one window blind?

Built-up Timbers.

THE statement that a 12x12-inch beam, built up of 2x12 planks spiked together, is stronger than a 12x12-inch solid timber, will strike the novice as exceedingly absurd. Every millwright and carpenter knows that it is so; at least he has been taught to believe that it is so, whether he ever tested it by actual experience or not. The inexperienced will fail to see why a timber will be stronger simply because the adjacent vertical longitudinal portions of the wood have been separated by a saw; and if this were the only thing about it, it would not be stronger; but the old principle that a chain is no stronger than its weakest link comes into consideration. Most timbers have knots in them, or are sawed at an angle to the grain, so that they will split diagonally under a comparatively light load. In a built-up timber no large knots can weaken the beam except so much of it as is composed of one plank, and planks whose grain runs diagonally to the outside cut will be braced and strengthened by the other pieces spiked to it and having the grain running in a different direction.

MEANING OF "INSOLVENT"—MINNESOTA LAW.—The term "insolvent," as used in the Minnesota insolvent law, applies in the case of a merchant or trader to inability to pay his debts in the ordinary course of business, and not merely to an inability to pay his debts when his affairs shall be ultimately wound up. So held by the Supreme Court of Minnesota in the case of Daniels *vs.* Palmer *et al.*

A CORRESPONDENT of the *Metalworker* complains, and we think with a good deal of justice, about the lack of attention, on the part of architects, to the proper grouping of plumbing fixtures in dwellings. A little more judgment displayed would, according to him, be certain to insure better working and entail less expense in doing repairs than under the prevailing apparently haphazard plan of putting fixtures in the first place that offers. The same correspondent attributes much of the discomfort to the inmates, and the blame which is so often visited on the plumber, to the lack and care bestowed upon the proper grouping of fixtures by the average architect. While in drawing the plans an architect never loses sight of the prominent features of the house—the doors, windows, flues, etc.—the plumbing apparently comes in as an after-thought. He sets down a water-closet, a bath, or a sink just where he thinks most convenient, the last thing entering his mind, if it does concern him, being how the plumber is to get his pipes in proper place. The architect evidently considers that this is the plumber's business, and, as a consequence, the latter is frequently taxed to the utmost to procure proper fall for his waste-pipes, or to so arrange his hot and cold water pipes as will insure them against freezing or bursting in most inaccessible places. The correspondent concludes by saying that if architects would devote some of their ability to the proper arrangement and location of the plumbing work in a house with a view to future contingencies, much of the unnecessary expense and of the odium now resting on the plumber would be avoided.

Market Reports.

CORRECTED FOR SEPTEMBER, 1886.

Pine, Rough	per M feet,		$15 00
" " No. 2	"	"	12 00
" " " 2 in lengths	"	"	13 00
" " 40 to 50 feet lengths	"	"	17 00
" " 50 " 60 " "	"	"	18 00
" " Selected	"	"	20 00
" " Clear	"	"	25 00
" " Fire Wood	"	"	8 00
T. & G. Flooring, 1 x 6	"	"	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	"	"	30 00
" " No. 2	"	"	22 00
Stepping	"	"	35 00
" No. 2	"	"	27 50
Furring, 1 x 2	per lineal foot,		00¾
Redwood, Rough	per M feet,		18 00
" " No. 2	"	"	14 00
" Surfaced	"	"	30 00
" T. & G. 6 in. 12 ft. and over	"	"	28 00
" " " 7 to 11 feet	"	"	25 00
" " " under 7 feet	"	"	20 00
" Rustic	"	"	30 00
" " No. 2	"	"	26 00
Redwood, T. & G. Beaded, 12 ft. and over	per M feet,		$30 00
" " " 7 to 11 ft	"	"	25 00
" " " under 7 ft	"	"	20 00
" Siding, ½ inch	"	"	22 50
Pickets, Fancy	per M,		25 00
" Rough Pointed	"		16 00
" " Square	"		14 00
Battens, ½x3	per lineal foot,		00¾
Shingles	per M,		2 00
Laths, 1½	"		3 25
" 1½	"		3 75

NAILS—Rates were recently reduced to:—

200 keg lots	2 50
100 keg lots	2 60
Smaller quantities	2 70

PAINTS AND OILS:—

Pioneer and Nevada White Lead, 1,000-lb. lots	6¾
" " " " " less quantities	7
Pioneer White Lead (local factory), 5-ton lots	6½
Cal. Linseed Oil, raw (single bbl. lots)	45
" " " boiled " " "	47½
Turpentine, per gallon	47
BRICK—California Building Description, soft, per 1,000	6 00
" " " red, " "	7 00
" " " hard, " "	7 75

Building Intelligences.

Where owners' names are left blank, it is so done in most instances by special request.

A

Army, bet. Guerrero and San Jose Avenue. One-story frame.
O. and B.—J. M. Comerford.
Day work.
$1,600.

B

Bush, bet. Pierce and Scott. Three one-story frames.
O —J. H. Donnelly.
A.—M. J. Welsh.
C.—W. Burke.
$5,600.

Baker, bet. Sutter and Bush. Two-story frame.
O.—P. Connelly.
C.—F. Roettger.
$2,700.

Baker, bet. California and Sacramento. Two-story frame.
O. and B.—Geo. Hinkle.
Day work.
$4,000.

Buchanan, cor. Oak. Two-story frame.
O.—Mrs. S. Ludwizsen.
A.—David Salfield.
C.—A. Klahn.
$3,500.

Bush, northeast cor. Jones. Three-story frame.
O.—L. A. Berteling.
A.—Geo. E. Voelkel.

Carpenter work—F. Knopf,	$10,250
Brick work—J. Wagner,	827
Plumbing—J. Shafer,	1,290
Painting—F. Shafer,	1,060
Total,	$13,427

Bush, bet. Taylor and Jones. Alterations.
O.—L. A. Berteling.
A.—Geo. E. Voelkel.
C.—G. F. Knopf.
$775.

Bryant, bet. Third and Fourth. Two-story frame.
O.—Thos. Boyne.
A.—F. Hillert.
Day work.
$1,000.

C

California, bet. Scott and Devisadero. Two-story frame.
O.—John F. Lindow.
A.—H. Geilfuss.
C.—F. W. Kern.
$6,500.

Columbia, bet. Folsom and Harrison. Two two-story frames.
O.—T. H. Hittell.
C.—A. Nelson.
$7,000.

Caroline, bet. Folsom and Harrison. Two-story frame.
O.—T. H. Hittell.
C.—A. Nelson.
$1,600.

Castro, cor. Seventeenth. Two-story frame.
O.—P. H. Dearen.
C.—Geo. W. Graham.
$2,000.

California, cor. Scott. Two story and basement frame.
O.—Mrs. E. E. Chase.
A.—Curlett & Cuthbertson.
C.—C. M. Cornell & Co.
$9,000.

D

Devisadero, bet. Eddy and Ellis. Two-story frame.
O.—Mrs. E. Tully.
A.—P. R. Schmidt.
C.—A. Norton.
$2,800.

Devisadero, west side, bet. Post and Sutter. Two two-story frames.
O.—J. H. Jellett & Geo. Leviston.
A.—C. I. Havens.
C.—C. E. Dunshee.
$7,000.

E

East, nr. Market. Two-story frame.
O.—State of California.
Day work.
$1,500.

Eleventh, nr. Howard. Two-story frame.
O.—Wm. Deeney.
C.—J. J. Sweeney.
$1,800.

Eddy, cor. Buchanan. Two two-story frames.
O.—A. Hayes.
C.—D. E. Hayes.
$9,000.

Eddy, nr. Buchanan. Two-story and basement frame.
O.—T. Costigan.
A.—T. J. Welsh.
C.—S. T. Green.
$5,000.

Ellis, cor. Octavia. Eight two-story frames.
O. and B.—B. F. Norris.
Day work.
$17,500.

Eleventh Avenue, nr. Point Lobos Avenue. Two-story frame.
O.—Miss Bella Ryan.
A.—F. Hillert.
C.—Eade & Rodgers.
$2,090.

F

Fourth, nr. Clementina. Three-story frame.
O.—Thos. Emery & Son.
A.—S. & J. C. Newsom.
C.—J. H. McKay.
$10,000.

Folsom, bet. Sixth and Seventh. Three-story frame.
O.—D. Harrington.
C.—W. E. B. Stiles.
$5,000.

Ford, bet. Sanchez and Noe. One-story cottage.
O.—P. Sheea.
A.—M. J. Welsh.
C.—Doyle & Son.
$2,000.

Fremont, cor. Harrison. Additions.
O.—Father Nugent.
A.—T. J. Welsh.
C.—M. Lynch.
$3,500.

Francisco, bet. Powell and Mason. One-story frame.
O.—Chas. Willmott.
A.—Copland & Banks.
C.—O. E. White.
$2,000.

G

Guerrero, bet. Twenty-fifth and Twenty-sixth. Two-story frame.
O. and B.—F. Vacker.
A.—Wright & Sanders.
Day work.
$4,000.

Greenwich, cor. Bush. Two-story frame.
O.—F G. Eickhorst.
C.—G. H. Walker.
$3,000.

Golden Gate Avenue, cor. Buchanan. Four three-story frames.
O.—M. W. Smiles.
A.—Wm. Mooser.
C.—John Campbell.
$14,000.

H

Haight, bet. Broderick and Baker. Two-story frame.
O.—J. C. Merryfield.
A.—M J. Welsh.
C.—Gray & Storer.
$3,600.

Hayes, cor. Ivy Avenue, bet. Franklin and Gough. Three-story brick.
O.—Henrietta Loewa.
A.—C. Geddes.
C.—W. Fletcher.
Brick work—G. Richardson.
$14,000.

Hayes, bet. Franklin and Gough. Additions.
O.—H. Winters.
C.—M. McDonald.
$1,600.

Haight, cor. Buchanan. Three two-story frames.
O.—Mrs. Mabel Treadwell.
A.—J. Gash.
C.—T. F. Merrill.
$15,000.

Howard, nr. Fifteenth. Two-story frame.
O.—H. Hilderbrand.
A.—John & Zimmermann.
C.—A. Miller.
$3,800.

L

Lapidge, bet. Nineteenth and Twentieth. Two-story frame.
O. and B.—F. C. Kleebauer.
Day work.
$2,700.

Lyon, nr. McAllister. Two-story frame.
O.—John Tobin.
A.—David Salfield.
C.—H. Inwood.
$1,800.

Larkin, bet. Vallejo and Green. Two two-story frames.
O.—A. Bremer.
C.—Martin & Maguire.
$4,000.

Larkin, bet. Vallejo and Green. Two two-story frames.
O.—A. Michel.
C.—Martin & Maguire.
$4,500.

M

Mission, nr. Second. Additions.
O.—Geo. A. Low.
A.—James E. Wolfe.
C.—Moore Bros.
Brick work—J. Smith.
$5,000.

Market, cor. Ninth. Two-story frame.
O.—J. S. & C. F. Doe.
A.—J. J. & T. D. Newsom.
C.—Thos. H. Day.
$21,495.
The amount $21,495 also includes the three-story frame on Ninth Street near Market.

Mason, bet. Sacramento and Clay. Alterations.
O.—M. L. Kaufmann.
A.—Miller & Armitage.
C.—A. Gilbert.
$1,500.

Mission, bet. Twenty-fifth and Twenty-sixth. Four two-story frames.
O.—John S. Morgan.
A.—Chas. V. Pierce.
C.—J. Bruce.
$12,000.

McAllister, bet. Buchanan and Webster. One-story frame.
O.—F. Younger.
Day work.
$1,500.

Market, bet. Jones and City Hall Avenue. Three one-story frames.
O.—Hyman Bros.
A.—R. R. Schmidt
C.—Mahoney Bros.
$11,000.

Mission, bet. Twentieth and Twenty-first. Two-story frame.
O.—B. Phillips.
C.—F. E Dunbar.
$3,000.

McAllister, bet. Webster and Buchanan. Three-story frame.
O.—L. Leiser.
A.—H. Geilfuss.
C.—A. H. Plummer.
$7,500.

N

Ninth, nr. Market. Three-story frame.
O.—J. S. & C. F. Doe.
A.—J. J. and T. D. Newsom.
C.—T. H. Day.
Cost included in the job cor. Market and Ninth, same owners.

Natoma, cor. Russ. Alteration.
O.—John Devanny.
A.—McDougall & Son.
C.—J. H. McKay.
$3,000.

O

Oak, nr. Steiner. Two-story frame.
O.—Chas. Sawyer.
A.—J. H. Humphreys.
C.—C. L. B. F. Jones & Co.
$2,500.

Oak, bet. Webster and Fillmore. Two-story frame.
O.—W. F. Laughlin.
A.—P. R. Schmidt.
C.—Hugh Keenan.
$3,900.

Octavia, cor. Ivy Avenue. Two-story frame.
O.—Jane McLaughlin.
A.—Miller & Armitage.
C.—R. Parker.
$4,650.

P

Page, bet. Devisadero and Broderick. One-story cottage.
O.—E. Mutelstadt.
A.—H. Geilfuss.
C.—O. R. Chandler.
$3,000.

Pine, cor. Pierce. Two and one-half story frame.
O —M. Sabin.
A.—W. F. Smith.
C.—F. W. Kern.
$7,500.

Post, bet Pierce and Scott. Two-story frame.
O. and B.—J. C. Wier.
Day work.
$4,000.

Post, bet. Kearny and Grant Avenue. Alterations.
O.—Kohlberg, Strauss & Frohman.
A.—Chas. I. Havens.
C.—P. Griffin.
$4,500.

Pine, nr. Lyon. One-story frame.
O.—A. Houschildt.
A.—H. Geilfuss.
C.—J. McKay.
$2,700.

Polk, cor. Bush. Additional contracts.
O.—Captain Taylor.
A.—W. Mooser.
C.—C. B. Gonyeau.
$5 000.

Pacific, cor. Leavenworth. Two-story frame.
O.—J. B. Hobson.
A.—J. J. & T. D. Newsom.
Carpenter work—Wessinger & Ponge, $8,825
Brick work—Geo. D Nagel. 1,725
Patent pavements—California Stone Co 500
Cost, $11,050

Post, cor. Hyde. Three-story frame.
O.—C. Weller.
A.—J. Marquis.
C.—F. Bergman.
$12,000.

S

Sutter, cor. Baker. Two-story frame.
O.—Mrs. Eugene Young.
C.—G. G. Gillespie.
$4,000.

Stuart, nr. Market. Two-story frame.
O.—Renton, Holmes & Co.
Day work.
$2,000.

Sutter, nr. Broderick. Additions.
O.—F. McCormack.
C.—R. Discher.
$1,600.

Sixteenth, north side, bet. Guerrero and Dolores. Two two-story frame stores and dwellings.
O.—Wm. McDowell.
A.—Charles I. Havens.
C.—A. Klahn.
$4,500.

T

Twelfth, cor. Glenn Park Avenue. Additions.
O.—C. J. Dempster.
A.—Huerne & Everett.
Day work.
$1,500.

Taylor, bet. Turk and Eddy. Four-story brick.
O.—P. Dupray.
C.—John W. Wessinger.
$17,000.

Twentieth, bet. Guerrero and Dolores. One-story frame.
O.—P. Gadina.
A.—M. J. Welsh.
C.—Joseph Dutton.
$2,500.

Twenty-second, cor. Fair Oak. Two two-story frames.
O.—Mrs. A. H. Flagg.
A.—M J. Welsh.
C.—Cormack & Elan.
$4,600.

Turk, bet. Taylor and Jones. Three-story frame.
A.—H. W. Burckes.
C.—Geo. W. Hansbrough.
$7,000.

Twelfth, bet. Mission and Howard. Frame church.
O.—Trustees Church of Christ.
A.—McDougall & Son.
C.—Ingerson & Gora.
$8,500.

U

Union, nr. Larkin. Two-story frame.
O.—Mrs. Brooks.
C.—Martin & Maguire.
$3,500.

V

Vallejo, nr. Van Ness. Two-story frame.
O.—Captain Barber.
A.—W. C. Hoagland.
C.—J. A. Benham.
$3,500.

Valencia, bet. Twenty-second and Twenty-third. Additions.
O F. Raabe.
C.—C. H. Muresky.
$4,000.

Valencia, nr. Ridley. Two-story frame barn.
O.—R. Tobin.
A.—T. J. Welsh.
C.—P. J. Smith.
$1,500.

Vallejo, cor. Hodges Alley. Two story frame.
O.—J. J. Boyle.
A.—T. J. Welsh.
C.—G. T. Knopf.
$3,700.

Valencia, cor. Ridley. Three-story frame.
O —John Fisher.
C.—John L. Binet.
$8,000.

Van Ness, cor. Ellis. Alterations.
O.—D. Hunter.
A.—H. T. Bestor.
Day work.
$10,000.

W

Webster, cor. Pacific. Two two-story frames.
O.—
C.—J. P. Sheppard.
$7,000.

Washington, nr. Stockton. Additions.
O.—Mrs. Pauline Mitchler.
C.—W. T. Veitch.
$4,500.

Washington, cor. Octavia. Two and one-half story and basement frame.
O.—Alex. Boyed
A.—Curlett & Cuthbertson.
C.—Peter Crichton, $18,790
Brick work, 2,000
Total, $20,790

Welch, bet. Fourth and Fifth. Two-story frame.
O. -Mrs. M. Sand.
A. —T. J. Welsh.
C.—Doyle & Son.
$3,000.

MISCELLANEOUS.

Sacramento—J, bet. Seventh and Eighth. Alterations and improvements. O., R. P. Burr; A., N. D. Goodell; C., Sprague & Elliott; $1,800. K, bet. Front and Second. Elite Theater. Alterations and additions. O., F. W. Fratt; A., N. D. Goodell; C., Heninger & Polland; $1,000. Second, bet. J and K. Improvements. O., H. W Harkness; A., N. D. Goodell; C., Wolf & Norris; $600. Sixth, cor J. Improvements O., L. C. Chandler agent; A., N. D. Goodell; C., T. J. Heninger; $350. J, bet. Second and Third. Additions and alterations. O., M. A. Burke; A., N. D. Goodell; C., B. F. Bell; $12,000. I, bet. Sixth and Seventh. Improvement Library Building. O., City of Sacramento; A., N. D. Goodell; C., Munford & Churchill; $450. G, bet. Eighteenth and Nineteenth. One and one-half story frame. O., C. H. Gilman; A., N. D Goodell; C., Siller Bros ; $400. Near Sugar Beet Factory. Two-story and basement frame. O., D. McCarty; A., N. D. Goodell; C., Wolf & Norris; $5,200.

Hicksville—One and one-half story frame. O., Wm. Fry; A., N. D. Goodell; C., Heninger & Polland; $1,200.

San Jose—Third, nr. Santa Clara. Two-story frame. O., Dr. E. S. Mead; A., Theodore Lenzen; C., H. C. Skow; $3,500. Rive. Two-story frame. O., Mr. Leonardi; A., Theodore Lenzen; C., Thos. Livingston; $3,000.

Santa Clara—Franklin. One-story frame. O., Mr. Nugent; A., Theodore Lenzen; C., Mr. Clifton; $2,500.

Alameda—Two-story frame. O., W. T. Ryer; A., Geo. A. Bordwell; C., Ingerson & Gore; $4,500.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

ENGLISH AND AMERICAN VENETIAN BLINDS (IMPROVED).

The only perfect Venetian Blind in the market. The Blinds can be seen at the Mechanics' Fair. Or for samples, prices, and further information, address

EDWARD B. HINDES, Office 330 Pine St., Room 55, S. F., Cal., Manufacturer for California, except Counties of Los Angeles, San Diego, Kern, San Bernardino, and San Luis Obispo.

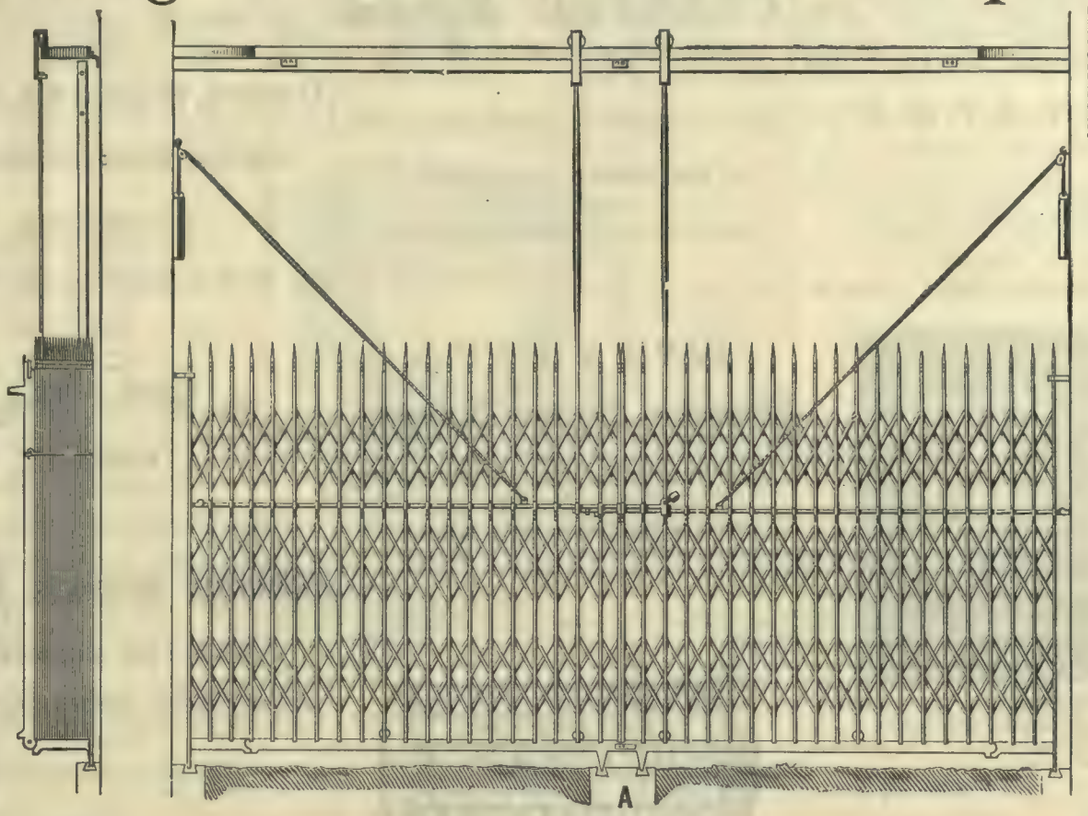
Or, W. S. HOLLAND, Pasadena, Cal., Manufacturer and owner of P. C. Territory. Rights to manufacture, and territory for sale.

The following are a few of the owners who have adopted the HILL BLIND in preference to any other:—

L. M. Fabry, cor. Hayes and Laguna; architects, Miller & Armitage. John MacKenzie, cor. Grove and Broderick; architect, H. D. Mitchel. H. F. Bruns, cor. Geary and Taylor; architect, John M. Curtis. R. B. Gray, cor. Pacific and Van Ness; architect, John Marquis. Albert Meyer, Twentieth nr. Valencia; architect, J. T. Kidd. J. C. Weir, Post nr. Scott; architect, J. C. Weir. Dr. J. Rosenstirn, cor. Sutter and Hyde; architects, Pissis & Moore. A. M. Starr, Washington nr. Fillmore; architects, S. & J. C. Newsom. J. H. McKay, cor. Washington and Steiner; architect, J. H. McKay. U. S. Government, Presidio Reservation; architect, J. H. Humphreys. Baron Von Schroder, 553 Harrison; architect, T. J. Welsh. G. G. Burnett, Larkin nr. Turk; architect, James E. Wolfe. A. F. Le Jeal, Clay bet. Franklin and Gough; architect, H. C. Macy. J. C. Weir, Post nr. Scott (second order); architect, J. C. Weir. P. Dupuy, Taylor nr. Turk; architect, W. H. Bayless. J. S. Morgan, Mission bet. Twenty-fifth and Twenty-sixth; architect, C. V. Pierce. N. W. Cole, Mission nr. Twenty fifth; architects, S. & J. C. Newsom. John Ritchie, Woodland; architect, W. H. Carson. Court House, Petaluma; architects, S. & J. C. Newsom. L. H. Sweeney, San Rafael; architects, Pissis & Moore. Court House, Santa Rosa; architects, S. & J. C. Newsom. Raymond Hotel, Pasadena; architect, J. H. Littlefield.

Folding Gate and Guard Company.

These Gates and Guards are manufactured to order in San Francisco, to fit and fill openings as desired. Descriptive Catalogues and Price List furnished.



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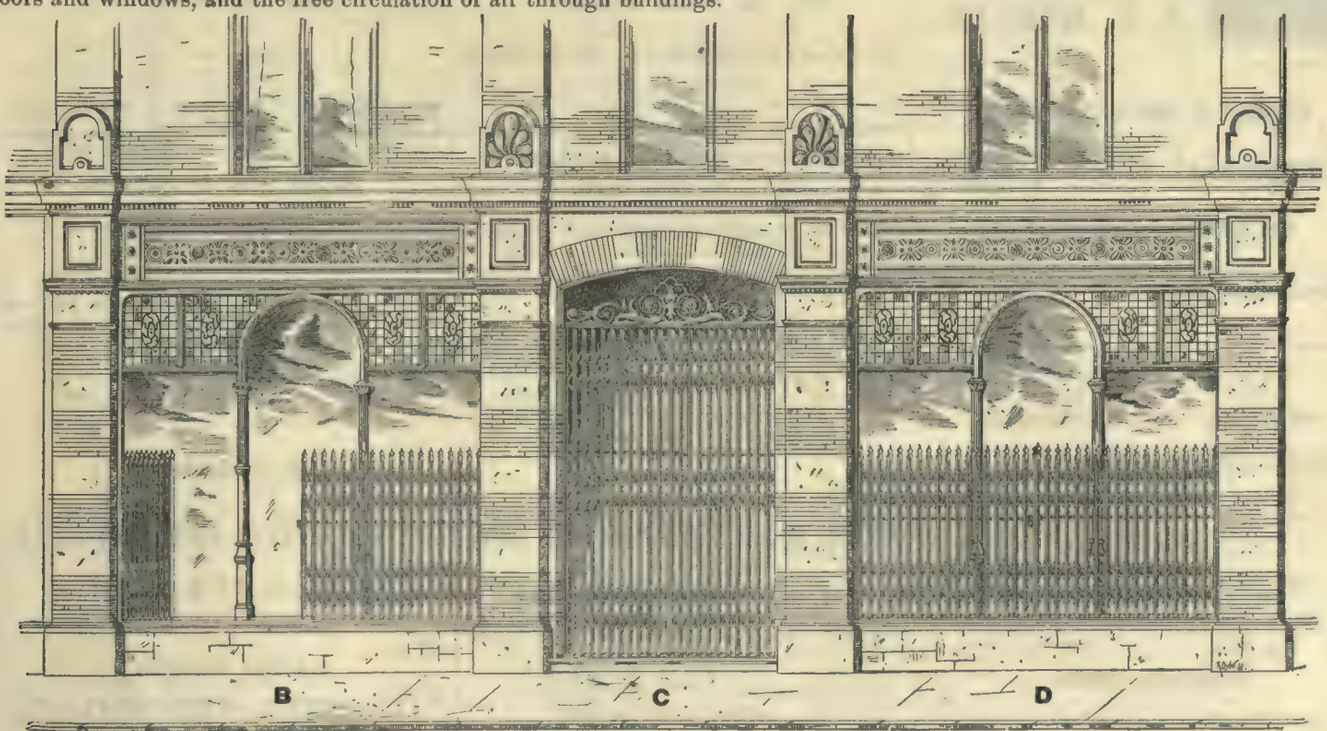

DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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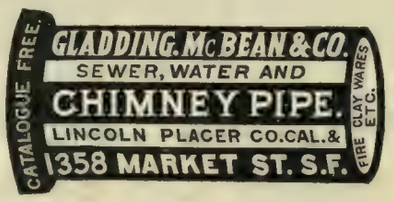

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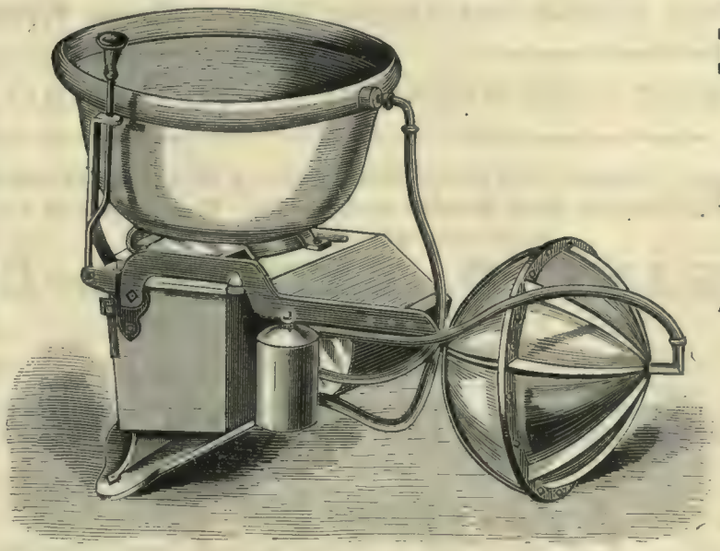

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Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns *every house* into a SANITARIUM, and is an assurance to those who trust it, that neither *sewer gas* nor *noxious vapors* that invade our houses freighted with *disease* and *death*, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! *It has no "overflow,"* rendering it a positive seal against *sewer gas* and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.

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STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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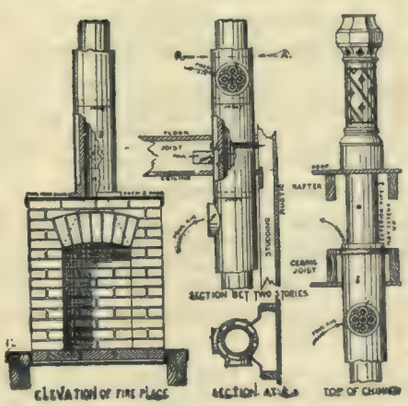

VENTILATION, ETC.

At the back of exterior pipe is a three inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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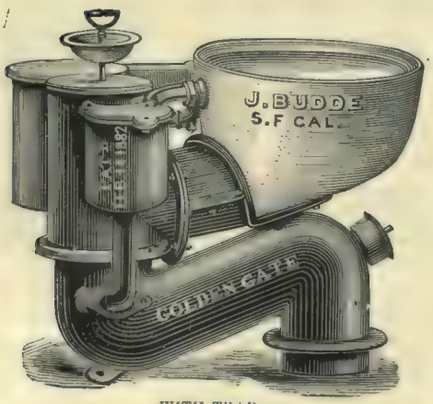

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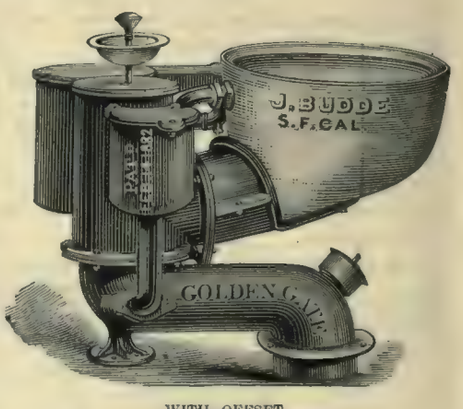

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2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

Side View, Combination Hopper.

PACIFIC PAN CLOSET.

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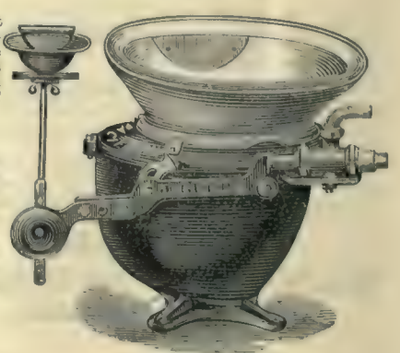

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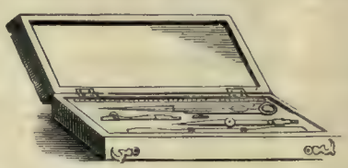

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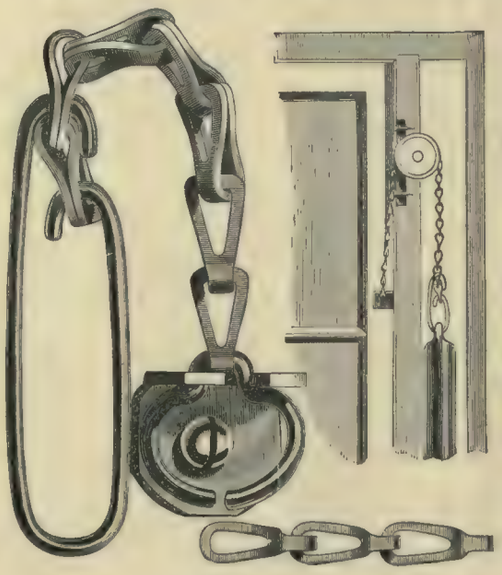

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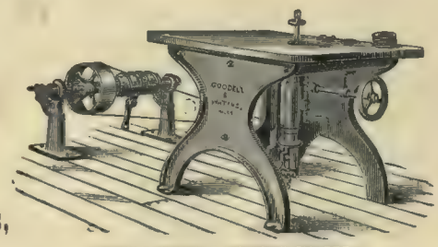

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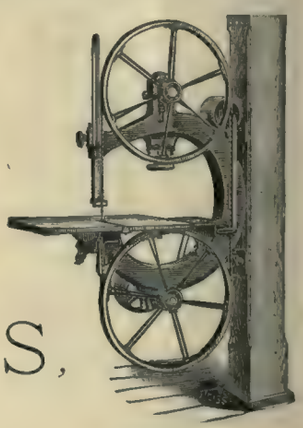

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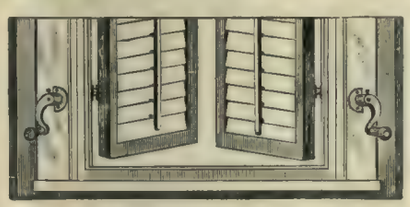

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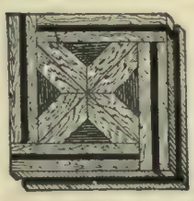

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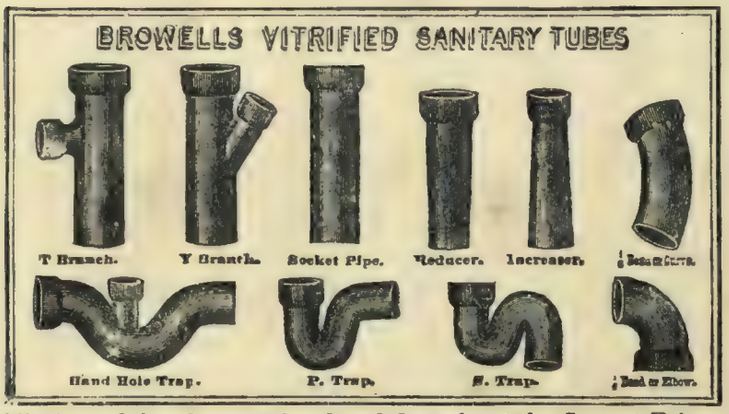

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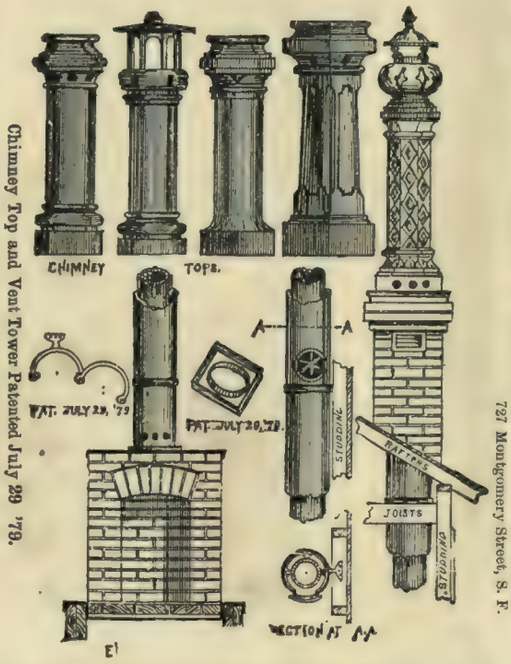

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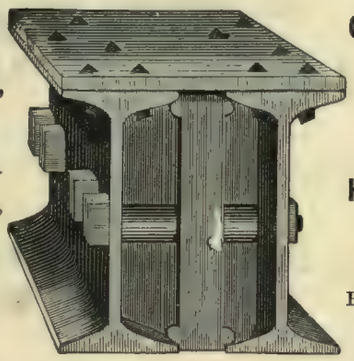

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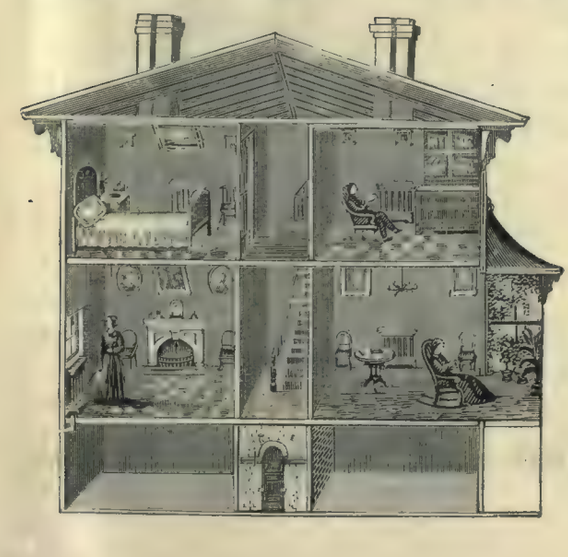

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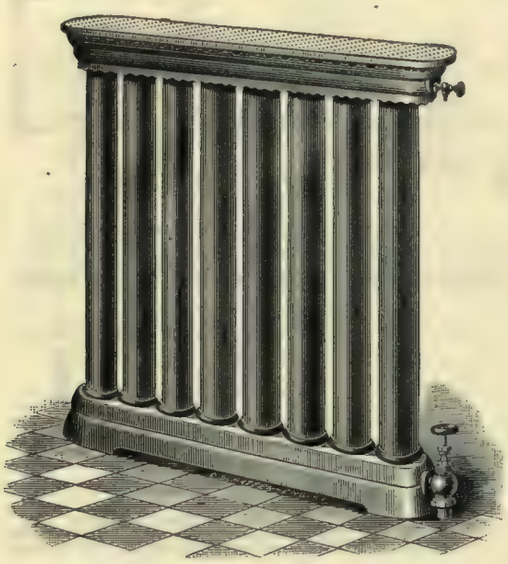

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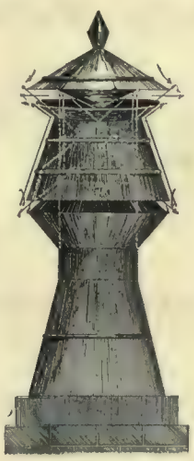

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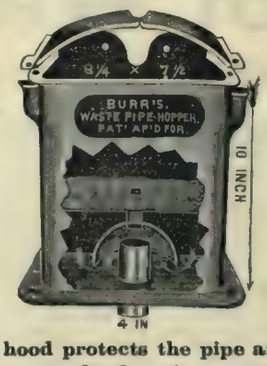

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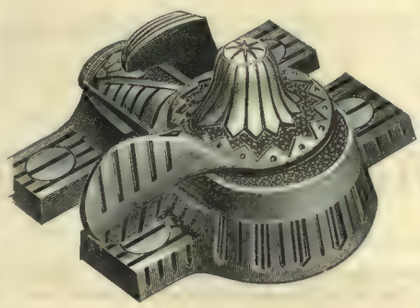

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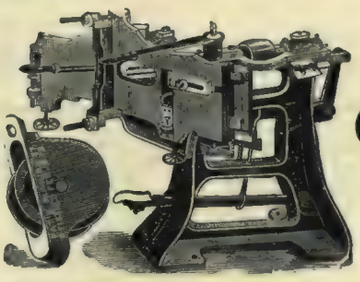

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NASHUA, New Hampshire; BURLINGTON, Vermont; BOSTON, Massachusetts, WATERTOWN, Massachusetts; CAMBRIDGE, Massachusetts; LOWELL, Massachusetts; WORCESTER, Massachusetts; HOLYOKE, Massachusetts; LAWRENCE, Massachusetts; NEW YORK, New York; BUFFALO, New York; BROOKLYN, New York; PHILADELPHIA, Pennsylvania; WILLIAMSPORT, Pennsylvania; SUNBURY, Pennsylvania; PITTSBURG, Pennsylvania; GLEN ROCK, Pennsylvania; WARREN, Pennsylvania; MIDDLETOWN, Pennsylvania; COLUMBIA, Pennsylvania; LANCASTER, Pennsylvania; SAVANNAH, Georgia; BALTIMORE, Maryland; HAVRE DE GRACE, Maryland; WILMINGTON, Delaware; ASBURY PAR New Jersey; DANVILLE, Virginia; AUGUSTA, Georgia; New Haven, Connecticut: MARQUETTE, Michigan; PORTLAND, Oregon; ERIE, Pennsylvania; INDIANAPOLIS, Indiana, SAN JOSE, California; CHICAGO, Illinois; ROCK ISLAND, Illinois; MILWAUKEE, Wisconsin; CEDARBURG, Wisconsin; ST. LOUIS, Missouri; KANSAS CITY, Missouri; DENVER, Colorado; SACRAMENTO, California; BELFAST, Maine; WINONA, Minnesota; CANISTEO, New York; CINCINNATI, Ohio; CLEVELAND, Ohio; WASHINGTON, District of Columbia; LOUISVILLE, Kentucky; HAMPTON, Virginia; TOLEDO, Ohio; SANDUSKY, Ohio; HAMILTON, Ohio; CHILLICOTHE, Ohio; DETROIT, Michigan; EVANSVILLE, Indiana; PRATTVILLE Alabama; GALVESTON, Texas; HOUSTON, Texas; COLUMBUS, Ohio; CHATTANOOGA, Tennessee; RICHMOND, Virginia; LYNCHBURG, Virginia; CLINTON, Iowa; PORT DEPOSIT Maryland; PADUCAH, Kentucky; DANVILLE, Kentucky.

You postively cannot afford to do without the NORRIS PULLEY AND MORTISER. It is the only machine made that will mortise for every kind of Pulley. No difficulty in starting machine; no scraping off edges of bits; nothing to get out of repair. It is a heavy, solid, substantial machine, built for work, and we guarantee it to do five times the work of any other Pulley Machine. It does not require any skilled labor to run it, no belt tighteners to wear out the belts. In fact, it is pronounced by all, and is POSITIVELY the ONLY machine for Mortising Pulleys. Our Pulleys are the strongest and best made in the country. We make 600 different qualities, and if any other style of pulley was given to you it would not pay to use it. We refer you to the leading Sash, Door, and Blind Manufacturers of the entire country. Information and Samples sent on application. Very respectfully yours,

C. SIDNEY NORRIS & CO., 36 Hanover Street, Baltimore, Md.

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STANDARD WROUGHT IRON STEAM PIPE, Special Fittings, Carefully Protected from Rust, SCREW JOINTS, and only where NECESSARY for Branches, HAND-HOLES at Bends, supported ONLY at Bottom, therefore not affected by SETTLEMENT of Walls and Floors; in fact, a PERMANENTLY TIGHT SANITARY SOIL PIPE.

SEND FOR PAMPHLET. CALL AND SEE FULL SIZE MODEL.

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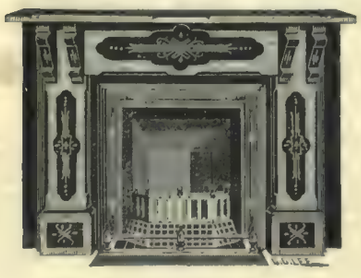
☞THOSE IN WANT OF BARGAINS SHOULD CALL EARLY.☜

GAS FIXTURES, AND MANTELS.



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SLATE AND IRON MANTELS.

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FINE WOOD MANTELS.

Gas Fixtures of Every Description, of Latest Designs.

☞ Tiles, Grates, and Mantel Trimmings.☜

BUSH & MALLETT, 34 Geary Street, Above Kearny.

The California Architect and Building News.

Volume VII. Entered at Post-office, San Francisco, as Second-class Mail Matter. Established January, 1879. Number 10.

THE

California Architect & Building News.

A MONTHLY JOURNAL,

Devoted to Architecture, Decorating, and Furnishing.

PRICE, $2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., OCTOBER 15, 1886.

THE OFFERED SALE OF THIS JOURNAL.

SINCE the first announcement in its pages that the entire interests of this journal would be disposed of to competent parties, a great many personal inquiries have been made, and propositions submitted and declined.

A sale contingent upon certain stipulations might have been made three months ago, but as we propose an **unconditional surrender** of the situation, we shall **hold the fort** until a competent **commander-in-chief** shall arrive, with satisfactory **financial credentials.**

Negotiations now pending with parties and firms east of the Rocky Mountains, may result in a full change of management by the first of January next, if not sooner. In the meantime the journal will be continued as heretofore to the best of our over-burdened abilities.

A GENERAL EXPLANATION.

Those who have made inquiry by letter, and personally, have asked for all the facts of the case, and what will be included in the sale.

As a general answer, we state: A sale will include every interest of the publication—its good-will, subscription list and advertising patronage, office appointments, desk, bound volumes and back numbers since 1879, outstanding accounts due from all sources, five hundred copies, more or less, architectural, mechanical, and other publications (optional), and all else pertaining to the publication and circulation of the journal.

We state, in answer to the question repeatedly asked by correspondents, in reference to

COMPOSING ROOM AND PRESSES,

That there are none. The journal has been conducted **incidentally** in connection with our architectural pursuits, and printed and bound ready for distribution by contract.

But with these limited facilities and restricted advantages, and personal attention divided between two great interests—editor and manager, and practicing architect—each demanding our whole time and energies, we have continued our publication work for eight years (less two months) with a profit to ourselves, making a most enviable reputation for the journal, as evidenced by the hundreds of complimentary notes from time to time published by technical, class, and other journals, and preparing the way for some one to continue its publication with great success and profit.

We Want YOU, Who Have Not, To PAY UP.

Anticipating retirement from the management of this journal, those who have *not paid up* their subscription dues will confer a favor by *doing so at once.* Let there be no delay in this matter. We propose to clean up as neatly and nicely as the good pleasure of *honestly disposed* patrons may make possible, and as thoroughly—☞*as the law provides*☜—with those who refuse or neglect to settle their accounts.

Every unpaid dollar due us has been faithfully earned by unceasing desires and earnest efforts to found and perpetuate a California class journal in the interests represented in these columns; and measured by the mental and physical cares and labors, and the financial requirements to this end, every dollar yet due us has been honestly earned and should be paid promptly.

We hope not to be required in any case to invoke legal redress, but as protection of publication interests, which have been and are so often abused by that portion of the reading public who seek to obtain their reading matter without cost, the law in such cases made and provided is, that every man who *receives* a subscription journal of any sort, can be held and made to pay the full amount of subscription, up to the time of *payment* and stoppage.

Summary of Building Activities.

The number of engagements and the cost of same for month of October, as compared with same month of 1885, may be seen below:—

157	engagements for 1885	Cost,	$579,114
54	" " 1886	"	230,720
103	" in favor of 1885	"	$348,394

Antiquity of the Hot-Air Furnace.

THE younger Pliny, writing to one of his friends about one of his country seats, mentions among other things that next to the smaller drawing-room there is a semi-circular room with windows arranged so as to get the light of the sun all day. He says: "Out of this is a bedroom which can be warmed with hot air." He also refers to the "bath with its cooling room and its hot room." As Pliny, Jr., lived A. D. 62–116, we may assume that hot-air furnaces are no new thing.

Pointers for Advertisers.

DON'T expect an advertisement to bear fruit in one night. You can't eat enough in a week to last you a year, and you can't advertise on that plan either.

People who advertise only once in three months, forget that most folks cannot remember anything longer than seven days.

If you can arouse curiosity by an advertisement, it is a great point gained. The fair sex doesn't hold all the curiosity in the world.

Quitting advertising in dull times is like tearing out a dam because the water is low.

It would require 50,000,000 pounds of wire to erect a telegraph around the earth at the equator, and but a half pound of the thread made by a certain species of spider.

How to Pay a Compliment.

TO pay a high compliment is to tell the truth, and to tell it as though you mean it. And the only way to do that is to mean it. If a girl is pretty or accomplished, if she plays well, or sings well, or dances well, or talks well; in a word, if she pleases, why in the name of common sense shouldn't she be told of it? Don't blurt it out before everybody. That will only make her feel uncomfortable, and make you appear ridiculous. Say it quietly when opportunity offers, but say it strongly. Convey the idea distinctly and fully, so that there may be no mistake about it. But don't do it "officially." Formality is about the coldest thing known. More than one maiden has been made happy—say for half an hour—by a man's taking the trouble to say a pleasant thing about a toilet that he liked, and many of fashion's follies have been given up by girls when they noticed a discreet silence concerning them on the part of their gentlemen friends. A bewitching little black-eyed beauty once said to a gentleman: "I like to have you say sweet things to me, it seems to come so easy and natural." In general terms, it may be said that it is always better to say an agreeable thing than a disagreeable one; better for all parties. The gallant who, when a young lady stepped on his foot while dancing, and asked pardon, said, "Don't mention it; a dainty little foot like that wouldn't hurt a daisy," not only told the truth, but doubtless felt more comfortable than the boor who, when his foot was stepped on, roared out, "That's right; climb all over me with your great clumsy hoofs."

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

Quarrying Large Stones.

THE Greeks had a predilection for large blocks of marble or stone, and their method of quarrying is interesting even to-day. They were extracted in the following manner:—

In order to procure the square stones—after the top and front faces of a given mass of the rock in the quarry have been brought to a plain surface—incisions, usually from 4 to 5 inches wide, were made on the top surface, marking out the boundaries of the intended size of the block. These incisions being continued down to the desired depth of the block, there remained nothing more to be done than to separate it from its lower bed, which operation was performed, as there is every reason to think, by the expansion of wooden wedges saturated with water. The cylindrical courses for the shafts of the columns were extracted (as may be observed at the quarries of Selinus, in Sicily) by means of a circular passage-way, 2 feet 8 inches in width, being hewn out of the rock and taking the entasis of the intended column, thus leaving an isolated mass of stone in the center the exact shape and size of the required shaft. I should here add that the stone columns of every temple occupy almost invariably the same relative position in the building which they occupied in the quarry.

This circular mass of stone has now, like the square blocks, only to be lifted from its lower bed; and the method employed, which, from the examinations of the quarries at Selinus, can be no longer doubted, bears me out in a conjecture I had previously made on the square blocks. A hole, or deep incision, wedge-shaped, was made in the lowest part of the insulated cylinder, in the direction of its center, but considerably to one side, reasons for which will be obvious. Into this hole, I presume, a wooden wedge was inserted, which was saturated with water, and which, being suffered to expand while in this position, would, at no great distance of time, heave up the mass, on the same principle applied to the splitting of slate and mill-stones in France, and so separate it in the direction of its bed. Nothing, I think, appears more likely, from the consideration of the facts observed at Selinus, than that such was the method employed; and since I see from my memoranda that I observed the branch of a shrub not one inch in diameter, which by its growth in a crevice of a rock had split a mass of stone weighing about 50 tons, I can readily conceive that the small orifice with its wooden wedge would have been sufficient to loosen the required mass.

In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

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Loafing.

WHILE there are many complaints made, from time to time, says the *Mechanical News*, about the dullness of business and the hardness of the workingman's lot, we hazard the statement that about one-half of the hard times and business depression is the direct or indirect result of loafing—either good, or solid, square, old-fashioned, primitive loafing, or the modern revised version, which is called, for some occult reason or other, "soldiering."

There are very few honest, safe, and profitable occupations in which success can be attained by sitting down and waiting for it, or is got by luck. There is more gold got out by patient labor than was ever brought to light by stubbing the toe against nuggets. The diamond fields are the scene of patient, plodding labor, neglecting no shovelful of dirt.

There is a marked difference between workmen who are doing for themselves, or who are piece-working, as well as among those who are "by time." One man will loaf away an hour a day. It may be listening to, or watching his neighbor; or hunting a match or helping hunt one; or wondering what to do next; or it may be distributed all through the day by deliberate and careful attention to the science of slow moving as applied to the prevention of heat or rupture; but it is there, all the same; there is an unproductive hour, or a day with a tenth or an eighth less work in it than it should have.

A day's workman cannot afford to loaf. He may lose his place, for a selfish reason. He is not giving an honest equivalent for what he receives, for a moral one. He is getting into the habit of working slowly, which will interfere with his profits if he gets on piecework—selfish reason No. 2. He is setting a bad example to others to render a poor equivalent for their pay—moral reason No. 2.

We could keep on piling up reasons of each kind against loafing, but they will suggest themselves; and then the case is somewhat analogous to the one where the lawyer announced twenty-nine reasons why his client did not appear at the trial. In the first place, he was dead. The second reason was that "the first reason was reason enough."

There are many foundries and factories, mills and shops, where no smoke issues from the stack and no rumble of work is in the air, and in which more energy and less loafing, on the part of proprietors and employés, would have enabled work to continue right along, at least at a rate which would pay hands and keep the business in public mind until times were better. Ten per cent more work out of every man would not have strained any one, and would have made just the difference between a slight loss in the business, and "expenses cleared." And that ten per cent more work would have improved every man on the place.

We just heard an anecdote of a noted stenographer who drops into profanity if a day goes by without his having anything to do; not because he loses the earnings of that day, but because he loses speed. He gets some one to read fast to him, in order to keep up his speed.

Go into an engine room and see the engineer doing nothing all day, and you will see a man who will not earn any more ten years from now than he is now getting. Instead of loafing, he might be reading, or drawing his engine out to scale, or learning something about the machinery his engine drives.

The time for loafing is after work. Then it should be free and unreserved, and will be beneficial and rightly earned.

Third Quarterly Report

ENDING with September, for town of Woodland and Yolo County

Woodland—16 frames		Cost,	$25,900
" 3 brick		"	14,500
" 9 improvements		"	3,900
Total—28		"	$44,300
County—3 frames		Cost,	$7,800
" 1 brick		"	7,000
" 3 improvements		"	2,100
Total—7		"	$16,900
City and County for 1886—35 engagements		Cost,	$ 61,200
" " " " 1885—58	"	"	160,875
Excess in favor of 1885—23	"	"	$99,675

Method of Obtaining Length of Rafters.

FOR some months past there has been quite a discussion of various plans for obtaining the length of rafters. Many of the methods presented are not desirable, for the want of accuracy. Some years ago the subject came up for discussion where I was at work, and I then prepared the following table, which is very simple and mathematically correct. Any mechanic can copy it on the back of a business card and tack it to the lid of his tool-chest, where it will always be handy for reference. The word "pitch" means such a fractional part of the width of the building. The further north you go the steeper the pitch, on account of the snow; also certain localities have pitches peculiar to that section of the country.

Pitch.	Square.	Rafter.	Brace.
1-6	4 and 12	0.527046	1.054092
5-24	5 and 12	0.541666⅔	1.083333
1-4	6 and 12	0.559017	1.118034
7-24	7 and 12	0.578852	1.157704
1-3	8 and 12	0.600925	1.201850
3-8	9 and 12	0.625	1.25
5-12	10 and 12	0.6508541	1.3017082
11-24	11 and 12	0.6782843	1.3565686
1-2	12 and 12	0.7071068	1.4142136

The first column indicates the pitch of the roof; the second gives the figures on the square that will cut the various pitches; the third gives the length of a rafter for a building one foot wide, and the fourth gives the length of braces for runs of the same proportion as the figures in the second column.

The manner of using the table is as follows: For any given pitch multiply the tabular number by the whole width of the building, and the product will be the length of the rafter in feet and decimals of a foot.

Example.—What is the length of a rafter of a building 18 feet wide at ⅓ pitch?

Solution.—0.600925 × 18=10.81665 feet, or 10 feet 9 13-16 inches.

Example.—What is the length of a brace having 40x48 inch run?

Solution.—40x48 inches is the same proportion as 10x12; hence, 1.3017082 × 48=62.482 inches, or 62½ inches, always using the longest run for multiplier.

Example.—What is the length of a brace having 35x35 inch run?

Solution.— 1.4142136 × 35=47.4974 inches, or 49½ inches.

"EDITOR ARCHITECT:—Please settle a difference of opinion by stating the proportion between the load a given floor will bear when the joists are not bridged, and the same floor thoroughly bridged, with two rows of herring-bone bridging."

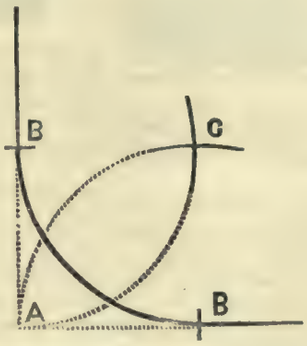
A floor will not bear any more weight by being bridged. The advantage to be gained by bridging lies in the fact that an individual joist is strengthened thereby, thus increasing its power to resist a concentrated load upon it, such as a heavy book-case, safe, etc.

A "YOUNG mechanic" wants us to inform him how to tell whether butts are for left or right-hand doors.

Lay the butts on the bench or table with the knuckle-joint towards the right hand. If they are open at the top they are right hand; if open at the bottom, they are left hand. A door that opens away from you to the right, is called a right-hand door. If it opens away from you to the left, it is called a left-hand door.

"EDITOR CALIFORNIA ARCHITECT: I often have occasion to *round off the corners* in various branches of my work, and what I require is a rule by which I can do so, and have the curvature perfect. Will you kindly furnish me the information, as others besides myself would no doubt be benefited. Respectfully, AJAX."

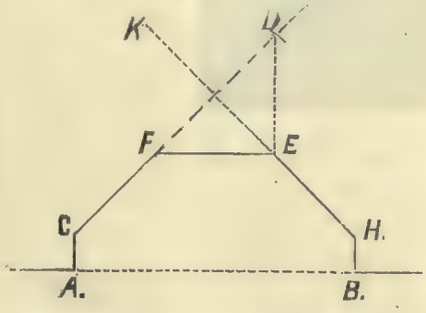
ANS.—The accompanying cut will explain a very simple way. It is applicable wherever there is a right angle:—



Let B A, A B represent the square corner of a shelf, or any object. Suppose the radius of the curved corner to be 1 inch. From A, as a center, mark off 1 inch each way, as at B B. With B B as centers, and radius A B, describe the circle A C. The point of intersection, C, will be the center of the arc B B.

"BUSINESS MAN. OF ARCHITECT: Is there a quicker method of finding the length of the sides of a bay-window, drawn on paper, than the old way of spanning around with a pair of compasses, till you get the three sides equal? READER."

ANS.—The cut will explain a very *neat way.*



Extend C F or E H; lay off on the line C D a distance equal to the width of your window, as A B. At D drop a perpendicular, and at the point where it intersects E H, as at E, draw E F, parallel with A B.

A CARPENTER wants to know how to remove the stains in his apron, caused by wet nails. For his information we will state: Soak the stains in a weak solution of chloride of zinc, and rinse immediately in water.

DO NOTHING in building by guess-work, and in its conduct trust not too much to memory, for a jotting or too at the proper time are worth a hundred jogs on the brain, for the purpose of safe recollection.

IF you would set out good work, do it by practical geometry; if indifferent or bad, by the "rule of thumb."

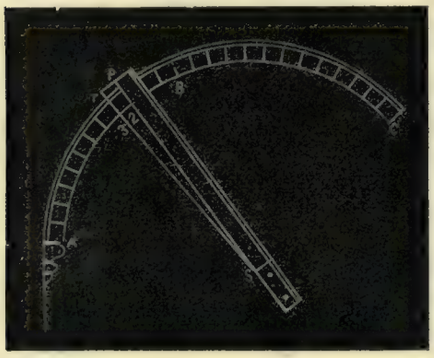
A FAIR day's work for a fair day's wages should be estimated by its quality as well as its quantity.

THOUGH a strong man, the carpenter cannot raise his frame without assistance.

WE will be pleased to receive for publication in this column items of information in regard to practical ideas connected with the mechanical part of the building trade. We especially invite suggestions from apprentices and young mechanics.

BUSINESS MANAGER OF ARCHITECT: In putting on a moulding around a circular head of a window, it is necessary, of course, to kerf the moulding in order that it may bend without breaking. Is there any rule by which we may know just how much solid wood to leave between each kerf?

ANS.—There are many solutions to this problem, but for simplicity and exactness, the following rule is better than any other which we can at present call to memory:—

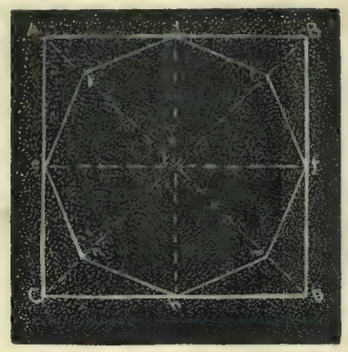


Let A B C be a curve to which a moulding or other work is to be bent. Supposing the stuff to be one inch thick, take a strip equal to this, and run a gauge line on to the thickness of a veneer; then make a cut down to veneer. This done, lay a strip on the drawing, keeping the cut opposite S, the center of the given curve. Fasten the lower part of strip; its face is now on line S P. Move it to the left until cut at S closes, which causes its face to be on line S T, and gives for solid wood between each kerf 2 3. Here it must be kept in mind that the same saw with which the cut was made in strip must be used for kerfing the work.

SOME materialistic scientists are very fond of quoting the remark of Kant: "Give me matter, and I will explain the formation of a world;" but they omit the other words, "Give me matter only, and I cannot explain the formation of a caterpillar."

WALL supports for clothing: When you drive a nail into a wall, clothes press, or closet, to hang things on, drive it through a spool up to the head. Select a spool with a hole large enough so that the nail will not split it.

CALIFORNIA ARCHITECT: I have a post, the lower half of which is to be square. The upper half is to be octagon shape, so that the angles of the octagon shall be in the middle of each side of the square. Will you please illustrate a simple method by which I can draw the octagon?



ANS.—Let A B C D be the square. Draw the diagonals A D and C B and the center lines *e f* and *g h*. From the center *i*, with a distance equal to half the width of the square, as *i h*, mark on the diagonals the points *k l m n*. Join *e k*, *k g*, *g l*, etc., and you have the figure required.

The following tables will be found of much benefit to parties residing in the country, who desire to know the weight of doors, sashes, blinds, etc., so as to form a basis for railroad expenses:—

WEIGHTS OF DOORS.

	1 Inch.	1¼ Inch.	1½ Inch.
2 ft. 0 in. x 6 ft. 0 in.	20 lbs.	25 lbs.	32 lbs.
2 " 6 " x 6 " 6 "	27 "	33 "	38 "
2 " 8 " x 6 " 8 "		35 "	40 "
2 " 10 " x 6 " 10 "	.....		48 "
3 " 0 " x 7 " 0 "	.....		50 "

WEIGHTS OF WINDOWS.

	1¼ Inch.	Glazed.	Unglazed.
7 x 9	.....	13 lbs.	6 lbs.
8 x 10	.....	15 "	6½ "
9 x 12	.....	20 "	7½ "
9 x 13	.....	21 "	8 "
10 x 12	.....	22 "	8 "
10 x 14	.....	23 "	8½ "
10 x 16	.....	26 "	9 "

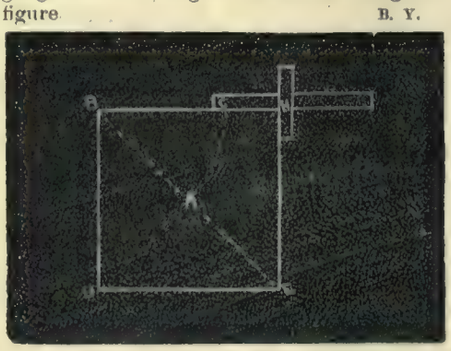
WEIGHTS OF BLINDS.

7 x 9	11 lbs.	2 ft. 6 in. x 6 ft. 6 in.	25 lbs.
8 x 10	13 "	2 " 8 " x 6 " 8 "	24 "
9 x 12	14 "	2 " 10 " x 6 " 10 "	25 "
9 x 13	17 "	3 " 0 " x 6 " 6 "	24 "
10 x 12	17 "	3 " 0 " x 7 " 0 "	25 "
10 x 14	19 "	3 " 0 " x 7 " 6 "	28 "
10 x 16	21 "	3 " 0 " x 8 " 0 "	31 "
10 x 18	22 "		
10 x 20	25 "		

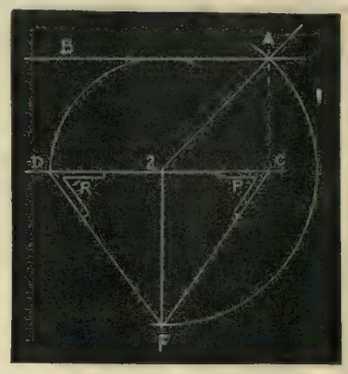
WEIGHTS OF LUMBER—DRY.

Sugar Pine, rough, per M ft	2,500
Yellow Pine, " "	2,700
Rustic, "	2,000
Flooring, "	1,900
Ceiling, ⅜ in. thick, "	800
" ½ " " "	1,200
" ⅝ " " "	1,400
" ¾ " " "	1,600
Common Boards, surfaced one side, per M ft	2,000
Dimensions, rough, per M ft	2,700
Shingles per bunch	40
Pickets, per 100 ft. of lumber contained	200

BUSINESS MANAGER OF ARCHITECT: Will you please illustrate a method for setting a gauge for an octagon without drawing the figure. B. Y.



ANS.—Let B D E H be any square. From B with the radius A B, draw A C. Set the gauge to equal C H.



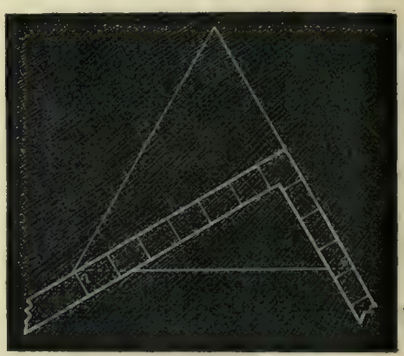
MECHANICAL EDITOR OF ARCHITECT: I send you a method I have used for some time, to get the bevel cuts for *splayed* work, or work having sides equally inclined or *flared*, the base of the work being a right angle.

Draw two parallel lines, any distance apart, as A B, C D. Let 2 A be the given *flare;* from A, square down a line cutting in C; take 2 as a center, and A radius, strike the arc cutting the perpendicular from 2 in F; join C F. This gives bevel P for direction of cut on face of stuff.

To find a bevel for miter on the edge:—

Take 2 as center; strike an arc, touching line A B and cutting at D; join D F. This gives bevel R for miter on edge of stuff, which should be square for application of bevel.

I do not claim the above at all as original. It is simply the way I learned in the East, and put in practice on my work in California.



To find the bevel of a cut necessary to be made for a right angle triangle, place the blade of the square on 7, and the tongue on 4. The bevel to use is the one formed by the blade or long arm of the square.

Any multiple of the above-mentioned figures may be used, as 3½ to 2, 14 to 8, etc. Take three pieces of scantling or other lumber, apply the square as per rule, cutting all three pieces of equal length and with the same miter; by putting the pieces together a perfect equilateral triangle will be formed.

IN planning stairs, think of your headroom from the lowest starting-point to the highest landing, or somewhere in ascending or descending stunning falls and broken limbs may accompany bruised foreheads and battered hats.

PERSPECTIVE is necessary in drawings, but do not carry its principles into practice in putting together workmanship.

HOUSES may not be built from the roof downwards, though they are often burned in that direction by plumbers' fires.

In making out building quantities do not overrate them too much, for you may calculate too liberally for your own good, as well as estimate by guess-work too lowly to your own and others' loss.

ASKED, ANSWERED, AND COMMUNICATED.

☞ Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

Free to All.

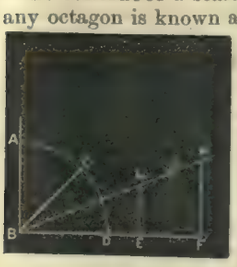
The columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to assume that we have passed the reef of human liability to err, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assure—that whatever of error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

San Francisco, Sept 30, 1886.

Editor Architect: Will you please answer the following questions in your columns: From which part of the redwood tree do the bird's-eye and curled burls which are used for veneering work, etc., come? Are there only a limited number of trees containing such burls? Is there any difference in the quality of redwood lumber growing in the different parts of the State? and does the redwood grow in the Sierra Nevada Mountains? Th. Weinert.

Answer.—Bird's-eye and curled burls are obtained from the lower part of the tree. In fact, many stumps have been dug out and sawn up for the sole purpose of obtaining the above varieties, the upper or lumber portion having, in many cases, been used long ago. Only a limited number of trees contain bird's-eye specimens. The different kinds of redwood are generally known as hard and soft, according to the part of the tree from which it is obtained. Redwood does not grow in the Sierra Nevada Mountains, except in very isolated instances. Its growth is confined to the vicinity of the ocean; in fact, a foggy condition of the atmosphere seems essential to its mature growth.

To construct a scale by which the side of any octagon is known at once.



Take any right angle, as A B F. From B, with any radius, draw the quadrant A D; divide it at C; with C as a center and with any radius, make an arc at O; with same radius and center D intersect the arc; through the point of intersection draw B K, and the scale is complete.

To prove the scale, make the distance B F equal A D, figure 5; square up from E, cutting at H; then F K equals 2 L, the side of the octagon.

The above is an exceedingly neat and easy way to get the side of an octagon without drawing the whole figure.

Editor Architect: As you have extended invitations several times to mechanics, asking them for communications in regard to improved methods of finding the length of rafters, I beg leave to submit to your approval the following method used by me in the Western States. Many of the mechanics in that section practice the rules given in all their roof work. While not giving the length with that same degree of exactness that would be found by the rule for finding the hypotenuse, two sides being given, still it is so near exact that the difference cannot be noticed, and I am sure it is a far quicker method than that old way.

I do not think that any simpler method can be given for finding the bevels at the heel and point of rafters than that explained in the issue of your journal referred to, so in this article I will deal with the length alone.

The most common width of buildings in California is 24 feet. And I propose to take that width for the practical test of my proposition. As you have given several ways by which the same result can be obtained, I will take up each of them and compare with mine.

Finding the length of the hypotenuse by the old rule, we obtain for a one-quarter pitch 13 : 4.99, or, as near as it can be used on the square 13 feet 5 inches.

Allowing one inch to the foot and trying your second method, we find, as the result, 13 inches and 7-16 scant, or 13 feet 5 inches. This is a very simple method, and when the rule is kept perfectly straight, the results are very satisfactory.

By my way I simply multiply the width of the building by the decimal .56, $24 \times .56 = 13.44$, or, as near as can be worked by the square, 13 feet 5 inches.

Let us try the same rule for a greater width—say 60 feet. By finding the hypotenuse we find as near as can be used by the square, 33 feet 6½ inches. By my method it would be $60 \times .56$, or 33.60, equal to 33 feet 7 inches full. By this method the rafters in wide buildings are a little long. Thus, if the building is 52 feet wide, by the hypotenuse it would be 29 feet 1 inch; my way it would be 29 feet 1½ inches. I consider this an advantage, as it leaves the point of the rafter very slightly open.

For a one-third I follow the same plan, only using the decimal .6. Unlike the decimal used for a quarter-pitch, the lengths obtained are a very small fraction short; as, for instance: a rafter for a building 60 feet wide, by finding the hypotenuse, would be 36 feet 1-16 of an inch. By my way, $60 \times .6 =$ 36 feet. A slight difference, truly. If building is 48 feet wide, then by the first method we find 28 feet 10 inches full; by my way, 28 feet 9 3-8 inches. A little practice will enable the mechanic to allow just enough to make up for the slight difference, so that when rafters are put together the fit will be perfect.

The one-half pitch can be found in the same manner by using the decimal .71. Taking the 24-foot building, length of rafters by the hypotenuse we find 16 feet 11⅔ inches; my way they would be 17 feet full. Again, building 60 feet wide, rafters by the first method would be 42 feet 6½ inches; by my way $60 \times .71 = 42$ feet 6 inches. By using this decimal, the length is so near practically correct that it may be used in all cases.

For a full pitch use the decimal 1.12, and as in the preceding mentioned pitch, and it will be found so near correct that it can be practically used in all cases.

It will be noticed that I have not made any allowance for projection of rafters over the plate. In this case gauge from the crowning side of your rafter the thickness of your projection; allow enough for the latter, and find the lower bevel according to the way you described in your last; measure the length of your rafter from where this bevel crosses the gauge line.

A little practice will enable the mechanic to lay off a rafter in a very short time. I have used the above myself, and have no trouble whatever. If any of your readers will work out the lengths of rafters according to their own methods, and can show that the one I use has any defects, I will be pleased to hear from them through the columns of your journal. Trusting that the above will so meet with your appreciation that you will deem it worthy of your notice, I am, respectfully, your well-wisher.

W. Helianus.

E. M. H. writes: "I have been working on buildings where the head carpenter, with a ten-foot pole, a pencil, and a square, will lay out the pattern for the rafters in less time than it takes me to write this. Upon asking for information how to do the same thing, I was told to study up the matter as he had done. Please give me a more practical answer."

Although not a very polite answer to receive from a fellow-workman, it is directly to the point. If E. M. H. will invest a few dollars in practical works on the "Steel Square and Its Uses," etc., he will, with a little study, lay out rafters as easily as the "head carpenter." Of course, in laying out a rafter, the first thing to find out is the pitch, or rise, of the roof. A quarter-pitch is one where the peak of the roof is one-quarter the width of the building higher than the plate; one-third pitch, peak one-third higher, etc. Or, in other words, a one-quarter pitch has a six-inch rise in each foot of width; a third pitch has an eight-inch rise in each foot, etc.

Pick out a straight piece of timber for a pattern. For a quarter-pitch, place the square against the straightest edge, with the tongue on 6 and the blade on 12. The bevel of the blade will be the bevel of the heel of the rafter, or the part resting on the plate. The bevel of the tongue will be the bevel of the point of the rafter.

Proceed in the same way with any given rise to the foot. For 5-inch rise to the foot, use 5 and 12 on the square; for 7-inch rise to the foot, use 7 and 12; and so on. The length of the rafter may be obtained in several different ways. Suppose the building is 36 feet in width, roof one-quarter pitch. On the square lay your rule so that the point will be at 18 on the blade, or one-half the width of the building, allowing one inch to the foot, and let the rule cross the tongue at the figure 9, which represents the rise of the roof, or one-quarter pitch. We find by looking at the rule the distance is 20½ inches, or 1 inch to the foot—20 feet 1½ inches. For a third pitch, let the rule cross at 12 instead of 9, and we have the length 21 feet 7½ inches.

Use a smaller scale for buildings that have a greater width than 48 feet. For those who understand the extracting of the square root, that plan enables them in a very short time to get the precise length of the rafter.

In the way just described, no allowance has been made for projections of rafters over the plate. It is obvious that a little different application of the principle will have to be applied if the rafter has a projection of one, two, or three feet.

Octavius Morgan.

THE subject of our sketch is a gentleman well-known in the Southern part of this State. A stranger upon his arrival in Los Angeles, he has, by his own individual energy, raised himself to a standard to be envied. He began his career as an architect in the beautiful "City of the Angels" in connection with Mr. Kysor. Since the formation of the partnership, the firm has had charge of a great many of the more principal buildings, both in Los Angeles and the surrounding country, some of their artistic plans ranking with those of any architect in the State. Mr. Morgan is a member of the San Francisco Chapter, American Institute of Architects.

"By Day's Labor."

THERE is perhaps a less comparative proportion of work done "by the day" in San Francisco than in any other city. The "day's-work jobs" are limited in number, and only in exceptional cases are they of any considerable extent or cost. The reasons why this state of things exists are numerous, and their recital in elucidation of the many facts involved would fill hundreds of pages of this journal. There are two sides to the main question, each prolific in argument, tending to illustrate that selfishness, avarice, cupidity, covetousness, and their kindred inspirations, control the acts of men in innumerable instances.

The more fatally forcible argument is against the operating classes, who apparently fail to comprehend or realize the error so often committed on their part, in seeking to protract and make the most of work intrusted to them under the day's-work system, either by excessive charges for material furnished, or tardiness, amounting to what is understood by the term "loafing," *i. e.*, killing time, and idling away the time, so as to prolong the work in hand and extend its duration.

The *mischievous* fact of the matter, as far as the working classes are concerned, is in the creation of a general sentiment and belief that workingmen cannot be trusted—that work done by the day costs very much more than a right and proper price, and excessively more than if done by contract. Consequently, this conclusion has become general, if not universal, that safety from excessive charges and wasteful cost in the execution of all classes of work can only be secured under contract arrangements.

This state of things induces a feeling of distrust, and creates antagonism between employers and employes, often amounting to "real ugliness." Tricks and deceptions are imagined on the one hand, even where not in practice; and, on the other hand, resorted to in fact in many cases, because the underlying principles are defective. The attempt to use advantages wrongfully often works to the disadvantage of those making the attempt, and operatives generally have lessened their opportunities and reputations by "piling on" too much; and, instead of being content with legitimate and fair profits, and working as steadily and faithfully on day's-work jobs as when restricted by contracts, have created prejudices against "day's work," and enforced the contract rule.

If the contract system was preferred for reasons alike honorable to all concerned, there could be no objection to its adoption; but, from the fact that it is more the outcome of irregularities practiced and suffered, than from necessity or preference, it amounts to a partial, if not conclusive, presumption, that under contract forms of operation certain protections are afforded to the paying party, which are not assured by the "day's-work" rule; and the fact that protection is sought, argues the existence of a wrong or evil, either real or imaginary, as *protection* is wholly unnecessary in the absence of danger; and this feeling or sentiment of distrust and fear of overcharges and excessive cost, influences many to adopt the contract system, who, if confident that they would be honestly and squarely dealt by, would prefer to have their work done under the "day's-work" regulation. This adverse sentiment to day's labor bears severely upon many good and honest men, who would exercise as great diligence and integrity in the execution of work by "the day" as though bound by contract obligations. There are many such, but the more general experience creates the rule by which such matters are judged; and, by this rule of judgment, the conclusion is almost universal that proper economies and fair dealing cannot be secured where work is permitted to be done without contract restraints and limits.

It is to be regretted that this conclusion is too well sustained by the practice of a considerable number, if not a majority, of those who have been intrusted in good faith with the execution of works of various kinds, upon the presumed integrity of the operating parties. Many—influenced by one, or either, or all the evil inspirations mentioned in the preceding portion of this article—overstep all bounds of consistency and fairness, and, frequently, for no other reason than manifest excess in charges, are compelled to modify their demands.

All this is greatly to be regretted, as it works to the disadvantage of the working classes, and justly so—only so far as right and honest principles and rules of trade are violated, and questionable methods adopted to draw from paying parties more than a true and right value for the work performed and materials used.

By the "stringing it out" and "piling on" process, men may sometimes secure large pay and profit for the time being, but every such occurrence works to the after disadvantage of the party who enjoys (!) such *temporary* profitable results; and, however much or little justified, as far as other men are concerned, those who suffer by wrong acts—it matters not by whom committed — naturally withhold confidence in others, and pre-judge the virtue of the masses, by the experiences encountered in one or more individual cases.

Octavius Morgan.

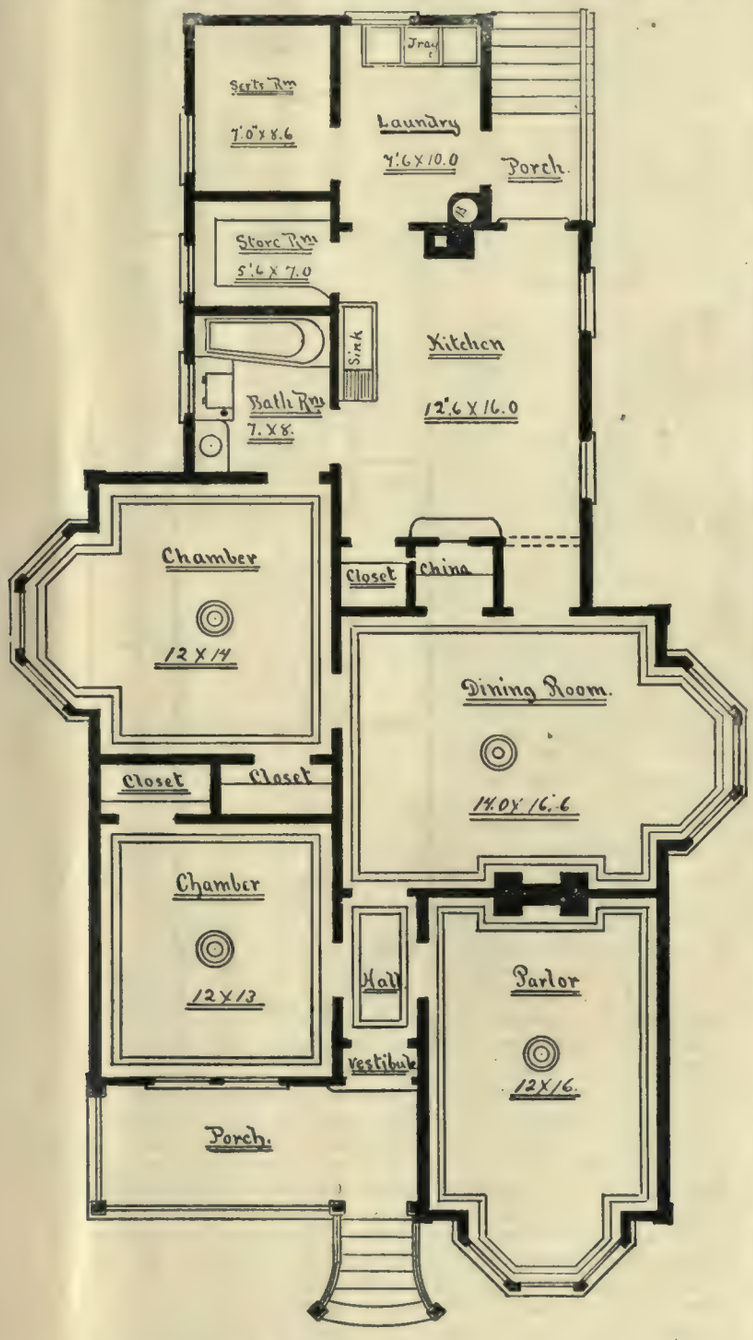
"Alas for the alum in the bread, and the chalk in the milk, and the powdered glass in the sugar, and the Venetian red in the cocoa, and the no-one-knows-what in the syrup. If a man not at all bigoted, but very liberal on the subject of temperance, and of the high-license persuasion, wants to imbibe some inspiration to help him fight down the fanaticism of prohibition, and he goes up to the counter and pays for an honest drink, he swallows and smacks his lips over coccolus indicus, and potash, and cochineal, and blue vitriol, and other delectables; some of these things put in to make the beverage hot, and some to make it red, and some to make it mix, and some to counteract the fatality of the others. Our officers of health have done a good work, but their chief work is yet to be accomplished. The ghastliness of diet to which millions of the American people are subjected may account for much of the sudden death and otherwise unaccountable and increasing suicide. It is amazing that there is any good sound health left for this systematized and almost universal poisoning process. Let us agitate the subject."

When you have the woodwork in a room painted, it is a good plan to have about two inches of the floor painted also; have the paint the same color as that of the base board; then if, when changing carpets, the carpet will not come close to the wall, the little space left will not be so unsightly.

A Convenient Plan for a Country or Suburban Home.

THE provision of a convenient dwelling for a family in the country, or the suburb of a city, is a matter of great importance, and, perhaps, no portion of an architect's practice has been so usefully bestowed as that which has been devoted to the study of a plan for the occupancy of those who have to calculate every item of housekeeping cost, and who, living by mechanical labor, have need of frugal employment of their means to bring up a family in comfort.

The plan presented is peculiarly adapted to those having a small family, and yet like to have a guest chamber when needed.



In case of friends who call to stop overnight, what more convenient than the front chamber shown? The whole front of the house is at the disposal of the guests for their quiet enjoyment, and no noise from the kitchen will mar their slumbers should they sleep till late from being overtired from a long ride.

The parlor is large and well lighted, and so is the dining-room. Bath-room is supplied with modern conveniences. Ample closet room is found wherever needed.

Should more room be desired, the laundry could be placed under the house and the existing space transformed, with but little alteration, into a bedroom. If *cost* is an item to be considered, the cornices designated in the four principal rooms, could be omitted.

As shown, the plan could be carried out at a cost ranging from $1,800 to $2,500, depending entirely on the finishes and the depth of the owner's pocket.

Does Good Plumbing Render a House Safe?

MANY vague ideas still prevail with laymen about what constitutes a safe system of "sanitary plumbing." It is, however, not too much to expect that architects, who are constantly arranging in their plans for the so-called "modern conveniences," should have at least a fair knowledge of the rudiments of modern plumbing. What, then, shall we say of an architect who can be guilty of such gross misrepresentations and misstatements as those which appeared recently under the heading, "The Danger of Sanitary Plumbing," in the correspondence columns of the New York *Evening Post*? Starting with the incorrect assertion that "experts disagree both in system and workmanship as to good or sanitary plumbing," this "architect" tries his best to alarm the public by stating that water (in traps) will not at any time prevent the steady flow of sewer gas, and that "sewer gas rises, expands, presses, constantly generates, and must have space," and broadly maintains that "so far as all appliances yet known to the plumbing trade under the head of sanitary plumbing, as back air or direct ventilation go, no absolutely safe plan has yet been devised by which water and waste can be introduced into any bedroom or adjoining closet and the health of its inmates be unimpaired." It seems almost superfluous at this day to say that the above contains gross exaggerations and only goes to prove that "Architect" is not sufficiently well posted on the subject, a fact which becomes more apparent by his description of a fine house, said by him to have been "the best plumbed house in New York," done by experts, and which he takes as an example to illustrate the danger of modern sanitary plumbing. In this house, he tells us, five basins and one bath were trapped by a single unventilated trap in the cellar, at a distance of about 60 feet from the fixtures. How "Architect" can make the untruthful assertion that the above house was plumbed by experts it is hard to understand. He has probably never heard of Board of Health Regulations, which, since 1881, require in this and other cities each wash-basin and other fixture in a house to have a separate ventilated trap placed immediately underneath the fixture.

"Architect" winds up by advising the householder to "strip his bedrooms of all plumbing whatever; to let no sewer connection of any kind come into a sleeping-room; to go back to the clean, old-fashioned bowl and pitcher, and to put all plumbing in an annex or separate building"—advice which, by the way, is not at all new, for years ago the late Dr. Frank H. Hamilton recommended the same thing. Thanks to the better understanding of the subject, such views are now considered to be old-fogyish and exaggerated.

Only last week we had occasion to make some remarks upon the uselessness of assertions, by well-meaning but ill-informed physicians, in regard to the unreliability, from a health point of view, of so-called "safe sanitary plumbing." Such ideas, spread by means of the daily press, are apt to do a great deal of harm. We are glad to note that "Architect's" ideas have been controverted by an architect of the highest standing, Mr. Carl Pfeiffer, who wrote to the *Evening Post* as follows:—

"Permit me to send you a few remarks referring to the letter of your correspondent 'Architect' in the *Evening Post* of to-day. I do not hesitate to take issue with him. His suggestion that all plumbing should be confined to one wing of a house may be pleasing to old fogies and to timid, nervous old women, but the advice to have no plumbing at all would, no doubt, be still more acceptable to them. If 'Architect' will call upon me I will show him in more than one house that there is not only no escape of any air or gases whatsoever from the plumbing pipes, but that the air of the room is sucked into the pipes. One of our well-known citizens and a resident of Murray Hill is so pleased with the plumbing of his house and feels so secure against the escape of sewer gas, after several years of trial, that he has assured me he would not hesitate to have an open end of his sewer-pipe close to his pillow at night. It seems odd that the same people who are so nervous about plumbing will sit for hours in the poisonous atmosphere of an unventilated parlor, theater, public hall, or church, contracting headaches and more serious diseases, without ever thinking of the necessity of pure air for their lungs. Much has been written against plumbing less reasonable than would be the suggestion to prohibit by law the manufacture of confectionery and the baking of pies and puddings."

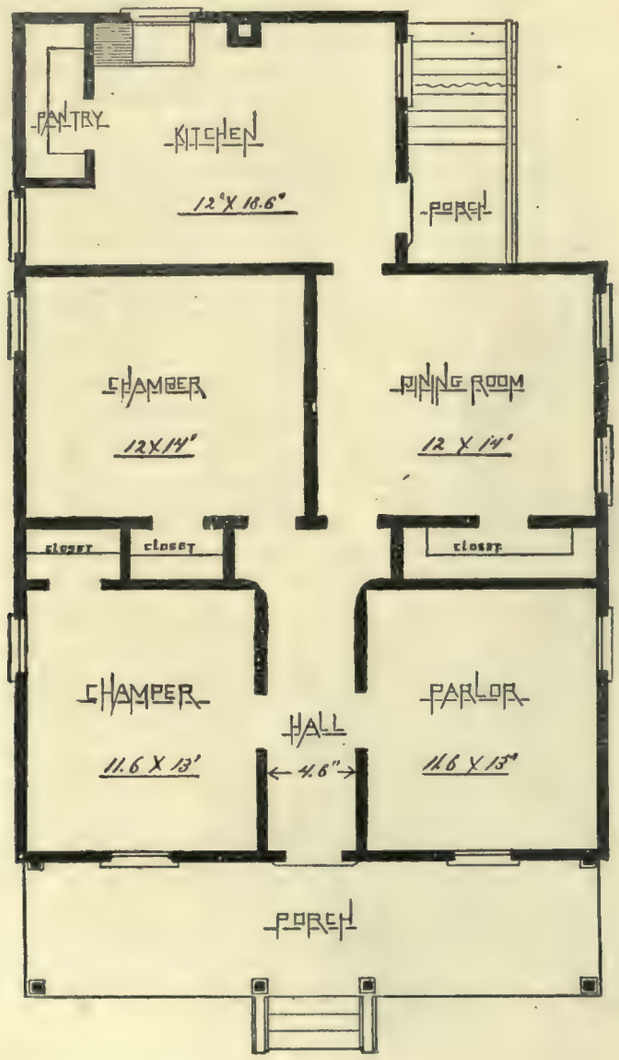
How to Make a Rust Joint.

FOR making a rust joint that will bear heat, cold, and rough usage, the following formula has been highly recommended: Ten parts iron filings, three parts chloride of lime, and enough water to make into paste. Put the mixture in between the pieces to be joined, and bolt them together, leaving until dry. After twelve hours the cement has been known to break off the solid iron.

JAPAN is said to have less than 10,000 paupers among her 37,000,000 inhabitants. In that country a man whose income is $1,000 a year is regarded as very wealthy.

A Cheap Five-Room Cottage.

THE tender care of an architect is essentially required when preparing a plan for those in humble circumstances, and yet whose pride must not be cast down by too plain an exterior, or too cramp interior. The plan presented is admirably adapted to meet the wants of the class referred to. The rooms are all of good size, with ample closets; plenty of light and means of ventilation are secured to each room. The house is so arranged that "modern conveniences" can be added at any time. According to the plan shown, the house can be built for a sum ranging from $1,500 to $1,800.



Hiders in the Bushes.

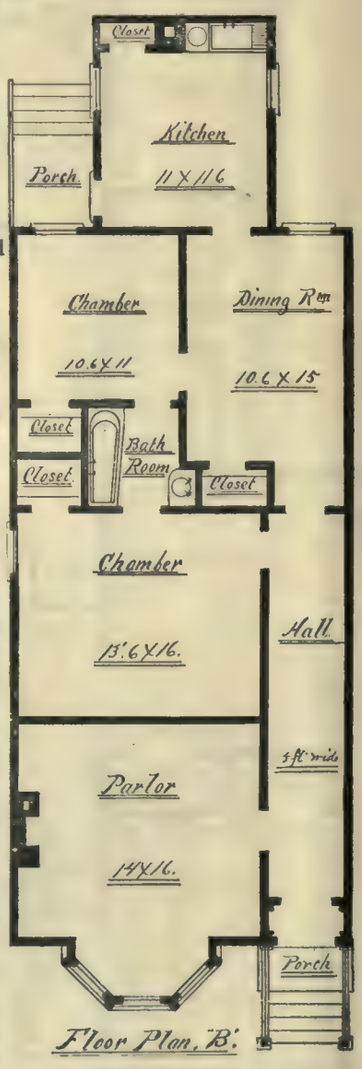
MANY subscribers outside the cities and counties in which papers and journals are published, withhold payment of subscription amounts under the fancied and dishonest protection of distance and difficult means of dunning and collection. Not being influenced or controlled by honest motives or purposes, nor shamed by the contempt expressed by publishers and authors universally, and smiling complacently under the lash of strongly worded denunciations from time to time found in print, they deem it smart to beat those who furnish them with valuable information or reading matter of interest, and think it *fine* to peruse journals and papers without paying for them, none of which is highway robbery nor burglary in the first degree, but is akin thereto in spirit, requiring simply the *occasion* and *courage* to perpetrate the higher crimes. Small thefts, cheating, peculations, and all of their kind are but the lesser offshoots and outgrowths of that more sturdy and defiant human growth, which, at times, is found under masks on the highways, with the deadly rifle, revolver, and the keen-edged dagger as means of defense. The nature that is so far tainted with dishonesty as to cheat, if it can, the publisher of any book or journal out of the rightful payment of the subscription cost, is one of the kind fitted to perform the role of brigand, provided the other requisites necessary to make up a bold and daring character could be contained within the skin of the man who seeks to *make* a dollar or two by *cheating the editor*.

Have we any of this kind on our subscription list? We hope not, and as proof that we have not, we further hope that every subscriber to this journal who has not, will at once forward their subscription balance up to December, 1886, at which time, or earlier, a new management will assume direction of its future.

A full list of delinquents will in due time be published in these columns.

Plan for a Narrow Lot.

FOR a narrow lot, the accompanying plan presents many inducements. Ample light is furnished each room, which are all of good size. Although not shown, a skylight over rear end of hall would be found to be a very useful addition; with a large transom over the door leading to principal chamber, the latter room would be much more cheerful. This house can be built anywhere from $1,300 to $1,500.



The Demand for a Good Pavement.

THE *American Architect and Building News* says: "One of the greatest needs of our cities is a wholly satisfactory material for paving. Many cities have grown weary in experimenting with this and that material, and are still casting about for new ideas and methods. Real estate owners on the busy streets find that the matter of noisy pavements seriously affects the rental of their stores and offices, and men with capital invested in team horses direct their drivers to sacrifice quick transit, and take roundabout streets rather than risk injury to their horses by traversing the greasy asphalt, or the equally insecure wooden blocks. The wooden pavements, that had their origin in the West, and sprang into favor a few years ago, largely because of their comparative cheapness, soon proved their unfitness for the uses of heavy travel. Besides the necessity for their frequent relaying, there was the difficulty experienced in keeping them down. Like the ghost of Banquo they cannot be depended on to remain "laid," as was strikingly shown not long ago in Devonshire Street, Boston, where a slight flooding of the street caused the pavement blocks to rise and float gaily with the tide.

Of the various kinds of asphalt or concrete that are used, opinions differ greatly. Of course much depends upon the particular kind used. Washington, Philadelphia, Cleveland, and other smaller cities, testify to good results from some forms of asphalt, but in Boston there is a pretty general concurrence of opinion against the material. Teamsters, especially, condemn it largely. In Detroit there has been an experiment on a small scale with a hard brick pavement, which is said to have stood the test of heavy travel with considerable success. The smoothness of this surface, however, it seems, must be a serious drawback, if generally adopted. A material that is coming in favor in Western cities is crushed Michigan granite, which has the quality of readily cementing itself and proving very durable, while making roadways sufficiently smooth to obviate undue noise. Its expensiveness is one argument against its more general adoption; but cheap and experimental pavements have certainly had as much attention as they deserve.

In order to close out our large stock of books on hand, we will make a reduction of TEN per cent on the publisher's price. Any book can be furnished by us, no matter what the name, or the cost thereof.

Cooking Water.

CHARLES DELMONICO used to say of the hot-water cure: "The Delmonicos were the first to recommend it to guests who complained of having no appetite. 'Take a cup of hot water and lemon, and you will feel better,' was the formula adopted." For this anti-anorexic remedy the caterers charged the price of a drink of their best liquors, twenty-five cents or more, and it certainly was a wiser way to spend small change than in alcohol. "Few people know how to cook water," Charles used to affirm. "The secret is in putting good, fresh water into a neat kettle, already quite warm, and setting the water to boiling quickly, and then taking it right off to use in tea, coffee, or other drinks, before it is spoiled. To let it steam, and simmer, and evaporate until the good water is all in the atmosphere, and the lime and iron and dregs left in the kettle—bah! that is what makes a good many people sick, and is worse than no water at all."

I am very glad to find such excellent authority on a question which has vexed me sorely, not only because of my own epicurean tastes, but because it was nearly impossible to obtain properly cooked water for invalids and convalescents. A critical taste will detect at the first mouthful, if the nose has not already demurred and given warning, the faintest trace of dead water in tea, coffee, porridge, and many other items designed for the stomach.

More frequently than otherwise, the breakfast kettle is set boiling with a remnant of yesterday's supply in it; the coffee-urn has been neither washed, dried, sunned, nor aired; possibly, in the interest of a rigid and mistaken economy, some of yesterday's coffee is also "boiled over," and the partakers wonder at their lassitude and dyspeptic conditions. Whatever else be neglected, the tea-kettle and its associate pots should be thoroughly cleansed, dried, and aired every day; and in no case should water that has stood even an hour in pitcher, pail, or kettle be used for cooking.

If people will drink tea and coffee, let them at least have it as nearly free from poisonous conditions as possible. That much benefit may be derived by many people from drinking hot water is not disputed, but the water should be freshly drawn, quickly boiled in a clean and perfect vessel, and immediately used. The times of using, the adding of milk, mint, lemon, or other fruit juices, is a matter of preference or special prescription. This article has in view the perfect preparation of boiled or "cooked" water.

Fire Protection.

THE Eureka Fire Hose Company of New York, is manufacturing a light, strong, cotton, rubber-lined fire-hose, called the "Eureka Mill," which has proven to be the most durable and reliable, and the easiest hose to handle ever made. It is lined with the finest Para rubber, and has now been in a large number of hotels, factories, public buildings, etc., for fire protection for the past ten years, and although in many cases hung over hooks or pegs with short kinks, which would ruin rubber hose in six months, it is still as strong and perfect and reliable for fire duty as when first put in. It is undoubtedly the only hose to use for fire protection, for there is practically no deterioration with age, and it stands an immense pressure, while the rubber hose of to-day is unreliable after six months, good-for-nothing after twelve, stands very little pressure even when new, and is stiff and hard to handle. No hotel, mill, factory, public building, or large building of any kind should be without some inside fire protection. Manufacturers and others of experience always look to it that they are well supplied in this direction, and only those who come directly in contact with this trade begin to realize how often inside fire protection of the right kind really prevents great conflagrations, or at least renders unnecessary the dragging in of the large, dirty heavy hose of the fire department, and the use and misuse of a large amount of water. A fire should be taken at the start, and this cannot be done unless the hose is handy, and is light, so that the gentler sex may handle it if necessary, and must be strong to insure efficiency and as a protection against the damage caused by bursted hose. In some of the large buildings going up in this city to-day, there has been no provision whatever made for fire protection, and it behooves the architects of these buildings to bestir themselves and make some provision of pipes, etc., before it is too late, or they may at some future day be severely censured for neglecting to attend to so important matter. There are a large number of buildings and manufactories in this city now supplied with this hose, and we shall give a list of them at some future day. But we desire particularly to call the attention of those interested, to hose as seen in the fire-closets of the Baldwin Hotel, where it has been since the hotel was completed, over ten years ago, and is to-day as perfect as when first put in.

The agency for the Pacific Coast is in the hands of W. T. Y. Schenck, 256 Market Street, who makes a specialty of fire hose and fire department apparatus and supplies.

Rules Regarding Cement.

EMINENT engineers are authority for the following important conclusions:—

Cold water is probably not injurious, only as it retards setting.

All cements when mixed with sand to a proper consistence for mortar will fall to pieces if placed in water before setting has commenced. Portlands do so even without sand.

Pressure while setting, with the degree of the thoroughness of the mixing or the gauging, the proportion of water used, and other considerations, may easily affect the results one hundred per cent, or even much more.

If too much water is present in mortar, the consolidation by ramming is proportionally imperfect.

Any American cement of good quality will with one and one-half to two measures of sand give a mortar strong enough for most engineering purposes.

American cement requires less water than Portland.

Sand retards setting, so that cement which, by itself, would set in half an hour, may not do so for some days if mixed with sand.

When one part sand is added to one part of cement, the strength is lessened one-half. Two parts of sand to one of cement, averages about one-third the strength of pure cement. These for tensils and transverse strains. The crushing strength does not diminish so rapidly.

Brick or stone should be moist and entirely free from dust, or mortar will not adhere.

Slacked lime retards the setting of cement.

The temperature of air and water has far more influence in the testing of cements than has before been suspected.

After using in air, cement, or cement with sand, should be kept moist or watered until completely hard.

Walls of buildings are often built of cement concrete deposited between smooth-faced planks as a mould, the planks being moved upwards as the work goes on. Cement should be nearly dry and tamped hard.

Post holes running down below frost and tamped full with concrete are safe and economical supports for warehouses and similar buildings.

Concrete may be used in large masses under water, and when properly put down, is found good for piers and shore protection.

One-quarter to one-half cement is a common rule of mixture for cement and lime for plaster work in air.

Neither concrete nor cement can be emptied in water loose with good results, but must be conveyed to place in boxes or bags.

The white efflorescence, most common to Portland cement, is supposed to be injurious to the strength of brick and other materials.

Any disturbance of cement after setting commences is prejudicial to strength.

The best sand for concrete is that with angular, coarse grains of uneven size. The more uneven the sizes, the less the voids, and the coarser the grains, the less quantity of cement required to cover the surface.

MECHANICS' GEOMETRY,

— OR THE —

Science of Framing by the Aid of Cardboard Models.

We have lately received a number of this Celebrated Work, and will forward a copy to any address —$5.00, less 10 per cent.

THE new city hall of Philadelphia is the largest building in the United States. It has already cost $12,000,000 and covers 3,000 square feet of ground more than the Washington Capitol. Its north side tower will rise 535 feet, making its height only 20 feet less than that of the Washington Monument.

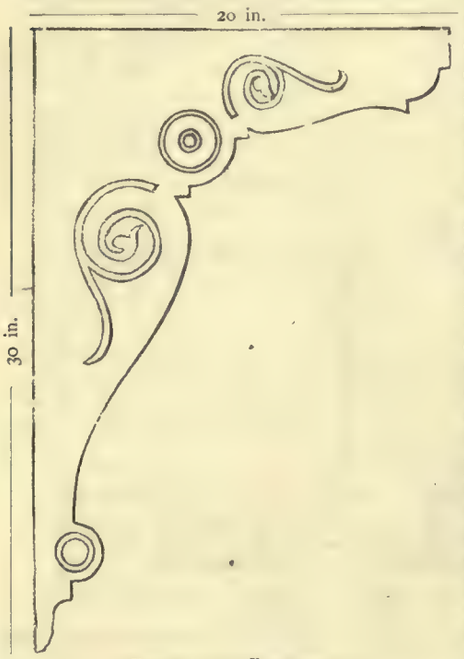
In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.

ART AND ARCHITECTURE.

[Special for this Journal. By F. Hillert, Architect and Mechanical Engineer.]

XXXI. PERIODICAL ART OF THE MIDDLE AGE.

THE spreading of Christianity changed the whole state of things, and the Middle Age does not any more know national differences in art. Of the nations which did not come within the historical development, not considering themselves the art of the Middle Age, are the Christian and the Mohammedan. The latter carried with it so many restrictions, coming from religious commandments, that it was struck with a destiny like so many of the old arts, the same remained typical, and its progressive development is only very small. But it has, with the Christian art, the same property in common that it ruled a number of nations, that it forced the same on every new conquest made, together with the Koran, the holy book of the prophet, from the shores of the Ganges to that of the Ebro. So far as the victorious arms of the sons of Mohammed penetrated, monuments and traces of them are found, but all of them show the same typical form, the same style.



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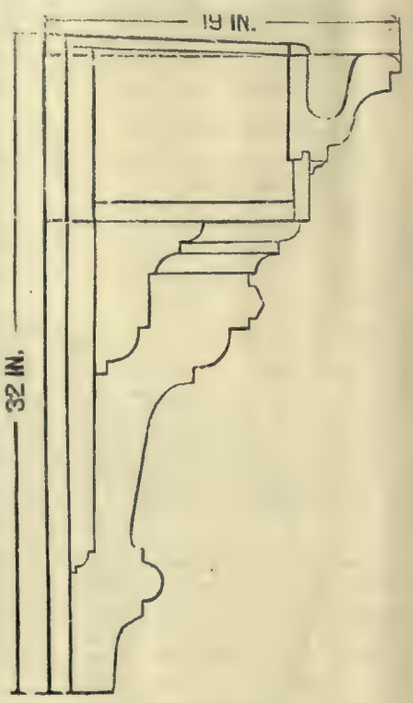
It is different with the Christian art. The Christian doctrine was by the different Christian nations differently taken up, conceived and retained, and in the course of time was developed and became church religion, changed and alternately transformed. The main cause of such transformations was the bodily and spiritual conflicts which were conducted for the defense and propagation, and always obtained a living stream, through which every involuntary or designed stoppage by priests became impossible for any length of time. Art followed all phases of religious development, and always took new forms and modes of expression. There are four main groups to distinguish, to which we must unite the similar monuments, and in course of time they followed each other. It originated periods, which mark a characteristic division of the art of the Middle Ages, which were largely and as a whole in common to all Christian nations, naturally without detriment to the above-mentioned special perceptions and singularities. In the first centuries of the independent Christianity, the relations to the antiquity were numerous and of considerable influence, that the same leaning to the antique traditions, formed an art, in which the Christian elements, as it were, slumbered in the bud; this is the so-called period of the ancient Christians. In the Byzantinian is already marked an important step to an independent originality. It alone satisfied itself to arrive at a certain height, then rested, and remained standing in a lifeless rigidity without developing itself to perfection. It reigned over a large portion of Western Europe, besides its native land, the Greek Empire, and soon the same became displaced by an art, the principle of which originated and grew in Germany, by transforming and uniting the forms of previous centuries to a new art. In this way originated the Romanic style, which expanded over all Christian countries at the time, except Byzanz; and the same again became displaced by the Gothic, taking and completing the same route through the Christian nations. As far as the origin of the four periods and the development of the different styles were concerned, and of any influence with and on the religious perceptions, and the churchship, is a problem not here to be discussed; but in general we will find in the ancient church and the immediate intonation of the latter, antiquity; in the Byzantine, the turning away from the occidental development and perception; in the Roman, the first independent innovation of the original force of the spirit of the German people; and, lastly, in the Gothic we find expressed the highest development of the church idea of the Middle Age. But that in common to all these periods, and uniting the same to a whole, is the Christian element, and thus a direct and clear view of the Christian religion is everywhere recognized in the works of art.



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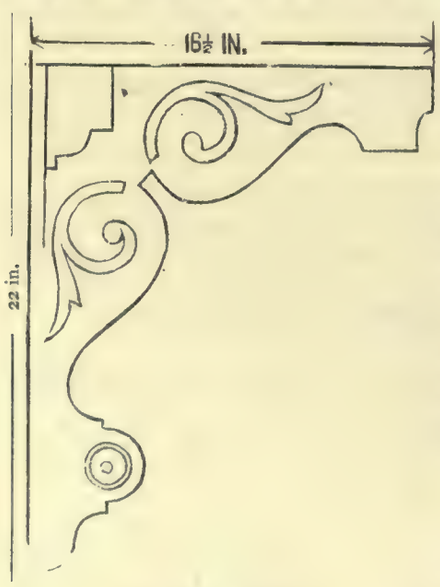

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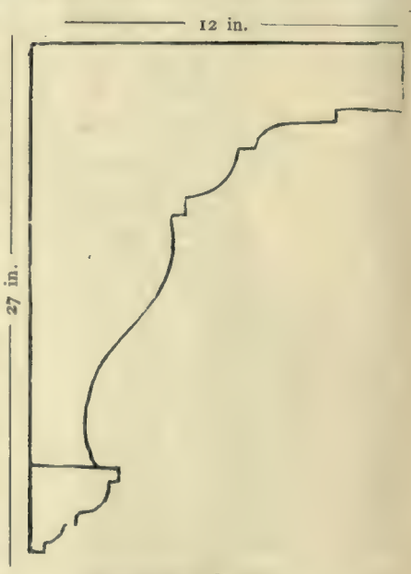

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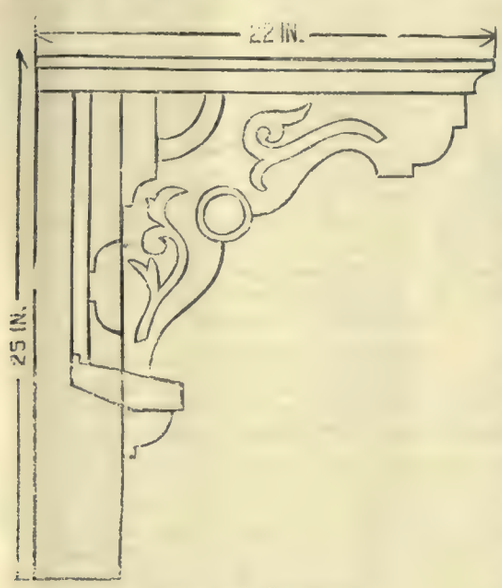
XXXII. UNIVERSAL INDIVIDUAL ART OF OUR TIME.

With our time the state of affairs is seemingly changed, but only seemingly, that the new religion, which is now forming, and the art, acting developingly, are the spirit of humanity. The coarse, the sensual, has outlived itself, and a nobler and finer spirit conditioned a refined perception. New gods were not proclaimed, but in the breasts of men spoke a sentiment, an inner, invisible voice of a new love. Before the Reformation, this spirit already lived and existed in the nobler natures, and it was the same which brought and called forth, suddenly, the hidden to expression, and to collect together every interest in the combat about the sacred endowments and goods, beside which disappeared the contemplative rest of artistic activity. This led to the highest flourish in art. The noble mind comprehended all which was worthy to be offered, not only breaking the narrow boundaries of ecclesiastic conception, and placing, in place of the supernatural, the human perfection, but also by enlivening the spirit of past times, knowing no boundary than the one it made itself, it became universal,

embracing the whole humanity, and what the same offered to it, as also individual, since that which it received it regenerated out of itself, adorned with the seal of its own spirit. Art in modern times is also universal in reference to the sphere of its objects and forms; individually in reference to the producing artist. Neither in the ancient times, nor in the Middle Ages impressed itself as such in an eminent manner in the works of art. The individuality of its originator, then the feeling, sentiment, and perception of all was the same, and the differences in the works of the artists, originated by their personalities, properties, and perceptions, were proportionately subordinate, so that the person of the master had to recede and stand back. Scopas and Praxiteles created works which in their artistical spirit were alike, and the same is the case with all the preserved Greek sculptures, that we can weigh on the same the measure of beauty, the grace of the technical execution, but we are incapable to give the name of a single artist, except where the name is preserved by traditions.



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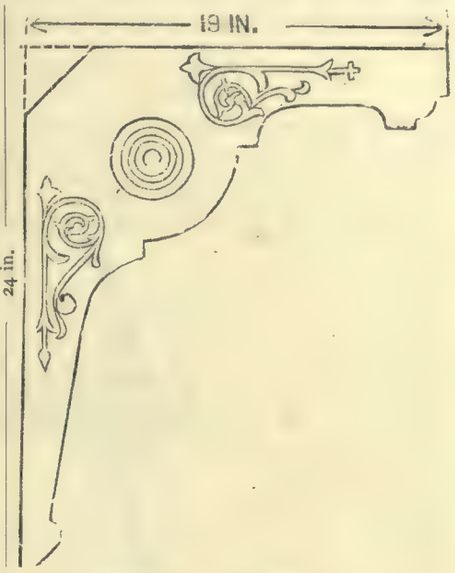
Similar is the Middle Ages, where the plastic had a smaller practice, and the significant preference extended to the art of painting, on account of the favorable spirit, should have called forth a noted expression on the individuality of the artist who should have been called upon for the remembering and expression of the Christian mode of perception. Style and perception are, on the large and the whole, everywhere the same, and only in our time is it the case that artists and their art schools, in their works, manifest and reveal a peculiar style, and a singular artistic character of their own. In our time the person of the artist is in art, and in its full appreciation, and in regard to objects made, no sphere of life, of history, or of nature is excluded. On the admission of the artistic treatment only the poetic value is decisive, and no other laws conduct and lead to art than those established by itself. The right of the individuality is so extensive, that where a pressure from the outside is tried, let it be by political power, or ecclesiastic influence or despotism, such power always, beginning with the lowering of the artist, degrades art, not worthy to be called so, or, what is better, the same causes a general retreat from within its reach.



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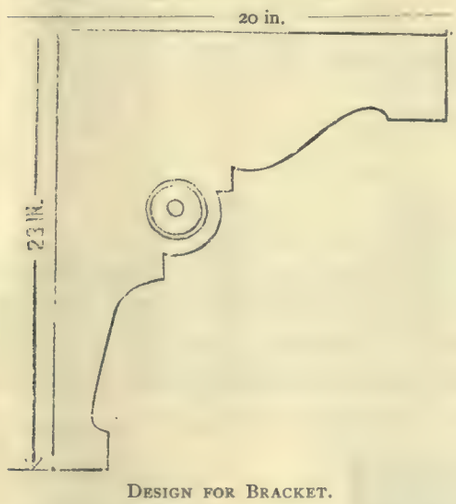
Art demands and requires unconditional liberty. It is looked upon with suspicion; and when compelled to execute commands of caprice, it is lost; and the one who tries to guide and manage the same to his will, will be punished with the total loss of the art. History does not lack examples of this kind.

XXXIII. FUTURE.

With this course, seemingly, the development of art in the main possibilities of its beginning, has passed through, and only through and from, the persons of eminent artists and cultured people, who exert an important influence. The pure national and the pure Christian art is buried for all time to come; then only the breaking in of a raw but gifted people of nature could destroy the old culture and art, and, beginning new, could create a natural religious art. But who could believe in the possibility of such incredible events; but what might occur after the wreck of the European people, shall not concern us. Largely gifted men of genius will, as long as our historical culture lasts, produce large, flourishing times of art, and out of the decline and ruin only the conscientious deeds and actions of the manly spirit will be saved from sinking. That the declining of flourishing art is not the work of accident or caprice, but that all goes to conform to unchangeable laws, based on nature, will next be spoken of.

Redwood.



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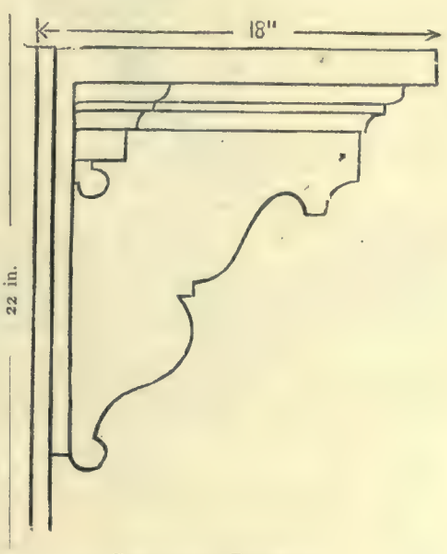
THE redwood—*sequoia sempervirens*—is found in any considerable quantity nowhere but in California, in a belt about 400 miles long from north to south, and 30 miles wide, on the average, from east to west, which lies upon the western slope of the Coast Range. North of this belt, pine, fir, and spruce gradually displace the redwood. The region lying between the northern boundary of Santa Cruz County and Russian River has been stripped of this precious timber. A recent careful estimate puts the amount of standing redwood at 26,000,000,000 feet, and the yearly consumption—which is constantly increasing—now reaches 200,000,000. In the southern part of the belt, where there is less rain and fog, the tree does not average more than two or three feet in diameter, and the wood is hard and flinty. Further north, in Humboldt County, the size increases, so that specimens twelve to eighteen feet in diameter and from 150 to 250 feet high are not uncommon; on large tracts experts estimate a quarter million feet per acre. The average size of saw-logs is six and eight feet in diameter. The wood is soft, coarse-grained, and very brittle, and so straight in grain that often it is not a hard matter to split out inch boards eight or ten inches wide, and from ten to fifteen feet long. When dry it is lighter than pine, spruce, or fir. Yet the butt log will often sink in water, when the top logs float like cork. The growth is slow, the annual rings often indicating an age of thousands of years. As the bark, which is very thick, soft, and fibrous, contains no resin, fires which run through the woods do not kill the standing timber, but, of course, must injure young sprouts. The great durability of the wood makes it desirable for shingles, railroad ties, and fence posts. It is highly valued for tannery tanks, which often last ten years, as the tanning solution does not act upon it as upon other woods. Wine merchants



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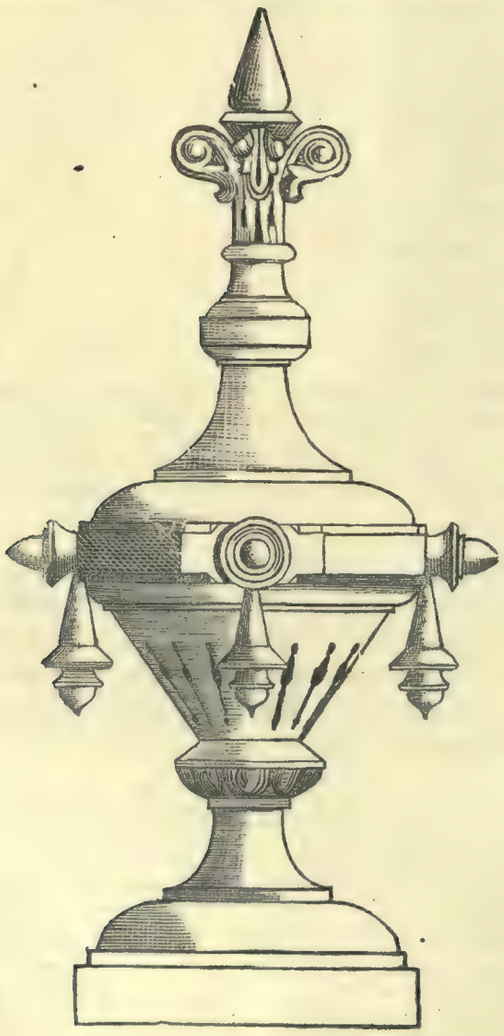
also seek it for vats, because a certain insect found in new grape juice, which bores pine readily, appears to dislike redwood. As its color is similar to that of Spanish cedar, and imparts no flavor to tobacco, it is prized for cigar boxes, and is largely used in New York for that purpose. Its extensive use in buildings, it is claimed, largely accounts for the immunity of San Francisco and other coast cities from large fires, there being little or no resin in it, and therefore less difficulty in putting out fire when once started. Some of the grain curls so that when polished and varnished, it rivals rosewood for cabinet uses.

Knots in Lumber.

"YOU would probably be surprised," remarked an observing lumberman the other day, "to see how some of my country orders run. I have customers who won't have a knot imperfection in their lumber, if they can help it, but who will take lumber so shaky it will hardly hold together, without a kick.



Ornament For Fence Post.

Indeed, if it looks well, they are very likely to send in another order to be filled out of the same lot. Now, every practical lumberman knows that for ordinary use, such as lumber is applied to by most country buyers, a good sound knot does not hurt it a particle, while shake is more or less of defect for any purpose. It used to puzzle me to account for this peculiarity on the part of some of my country friends, until I happened, while out on the road one day, to drop into the office of a man whose purchases run to this sort of lumber. I had some particularly good stock, in which the imperfection was chiefly confined to knots. It was sound, and I thought it an especially desirable lot of lumber of the grade. I wanted to send him a car load, but, though I argued diligently with him, he would not buy. Finally he asked me to go out into the yard and see how his sales ran. I did so, and an hour's observation convinced me that he knew what he wanted better than I did. The grangers who came in to buy would invariably kick about the knots, but show them nice, clean-looking boards that were shaky, and they would take them every time, in preference to lumber that was really better in every respect, but the imperfection of which was apparent on the face of it. I marveled no longer at the seeming peculiarity of my friend's taste in lumber, and whenever he sends in his orders now, endeavor to give him what will best satisfy his customers." And, no doubt, there are many among the retail dealers, even, who do not appreciate the comparative worthlessness of shaky stock as compared with that which is only defective because it is knotty, though the knots may be red and sound. Buyers have been known to object vigorously to a really excellent article of dimension which showed a good many knots, and take in lieu of it, at the same price, cleaner looking, but not nearly so good, stock in which the imperfection was chiefly shake. Unless the difference is carefully pointed out to a user, he is not apt to discover it. A shaky piece of lumber, where the defect is not so great as to entirely destroy its usefulness, makes a very presentable appearance, and this is what users largely depend upon in judging of it. They buy it, and use it, and when it afterwards shows a disposition to crack and split, they, as likely as not, lay the blame upon the paint, or the weather, or some other cause which has nothing in the world to do with it. And when they buy again, they make the same mistake. It would not in many instances be possible to convince such people that they are wrong in their judgment, and perhaps it is not the best policy to try.

Unnoticed Dangers.

FAR too many houses, both in the city and country, stand on made land or at least that which was formerly swampy. The foundation walls, when there are any, for houses often stand on posts alone, are built of solid masonry, but with no cement either outside or in. Such walls are porous and soak up water nearly as rapidly as a sponge. Then it slowly trickles down the inside, emitting malaria and forming a fine soil in which all matter of fungoid growths flourishes. The rooms over such places are first-class disease breeders, and every home should be frequently examined to see that these dangers do not exist.

The drain pipes often leak in cellar and basement. This adds to the danger of the rooms above; the two fiends, stagnant water from the sewer and water filtering in through the walls, work in concert to sap the life of the little ones, and to fit them to yield to the first disease.

The walls of the rooms themselves, in far too many houses, are disease breeders. A neat and tasty paper upon the wall makes a room inviting and adds to the home comfort. But, unfortunately, even when the paper is made free from poison, and good paper can be so made, the paste with which it is attached is just the home for minute organisms which produce certain diseases. This is bad enough when there is only a single layer of paper, but when, as is often the case, several layers of paper and paste are laid on the same wall, outside of one another, the danger is multiplied many times; such walls are really masses of festering filth; the best wall is undoubtedly the plain plastered wall.

All cases like these demand caution. Those who are responsible for the home comfort, cannot be too careful; the health, often the life, of the loved ones, particularly children, depends upon rigid exclusion of all these lurking-places of disease and breeders of death. Beauty should be and is consistent with perfect safety in the home.

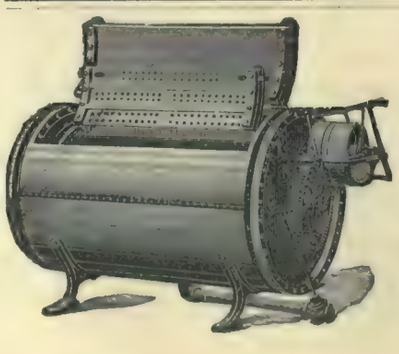
Sharpen your tools properly and you will husband your strength.

Please Make Immediate Settlement.

As an entire change in the management of this journal is likely to occur at an early day, those who are indebted to us will greatly oblige

BY MAKING PROMPT PAYMENT.

Do not hold off because you may for a time, but pay up at once and remove the obligation. It is our due and your duty.



NOTICE.

The Office of the

TROY

Laundry Machinery Co

And Manufacturers of

LAUNDRY MACHINERY

Has been Moved to

209 Fell Street, S. F.

J. E. CHAPELL, Agt.

Master Plumbers' Association.

Howard Building, S. W. Cor. Stockton & O'Farrell Sts., S. F., Cal.

MEMBERS.

BUSH & MALLETT ..... 34 Geary Street
BUSH, D. ..... 316 Sutter Street
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CONNOR, J. H. ..... 528 Third Street
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ENRIGHT, WM. & CO. ..... 39 Sutter Street
FIRMIN, JNO. L. E ..... Cor. Thirtieth and Bartlett Streets
FRITZ & KEAN ..... 130 Geary Street
GRAY, JNO. T ..... 230 Sutter Street
HUFFSCHMIDT BROS. ..... 637 Clay Street
HOBRO, W. D. ..... 728 Washington Street
REILLEY, C. J. ..... 214 Montgomery Avenue
SHEPARD BROS. ..... 526 California Street
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VANCE, R. A. ..... 623 Geary Street
WELCH, J. D. ..... Cor. Tyler and Fillmore Streets
WILSON, WM. F. ..... 25 Stockton Street
WILLIAMSON, H. ..... 329 Sutter Street

Selections from Goethe.

WE like to look into the future because we desire the incidental, which we know lies therein, to point our way.

We cannot well be in any company without thinking: the accident that brings us together in a crowd we expect to contain friends of ours.

We may live as retired as we please, still we will be either a debtor or a creditor.

If we meet a body indebted to us we are sure to remember the fact; but when we meet a person to whom we are indebted, ten to one we will forget the fact.

Nobody would talk much in a crowd if they knew how many misunderstood them.

To be communicative, comes by nature; to adopt what others tell us, is culture.

It is presumable that the speeches of others are so much misquoted because they are really not understood.

Whoever talks long before others without flattering them, becomes obnoxious.

Every word expressed causes counter thought.

Both flattery and oppositi n make conversation disagreeable.

Nothing indicates men's character better than their ideas of what is ridiculous.

Sensual men laugh where there is nothing to laugh about.

To the intelligent most everything is ridiculous; to the reasonable, almost nothing.

Passions are vices or virtues; they are, however, always intensified.

The golden mean is in nothing more desirable than in our confidence in or mistrust of those we love.

A passion is tempered by confession.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

Market Reports.

CORRECTED FOR OCTOBER, 1886.

Pine, Rough	per M feet,	$15 00
" " No. 2	" "	12 00
" " " 2 in lengths	" "	13 00
" " 40 to 50 feet lengths	" "	17 00
" " 50 " 60 " "	" "	18 00
" " Selected	" "	20 00
" " Clear	" "	25 00
" " Fire Wood	" "	8 00
T. & G. Flooring, 1 x 6	" "	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	" "	30 00
" " No. 2	" "	22 00
Stepping	" "	35 00
" No. 2	" "	27 50
Furring, 1 x 2	per lineal foot,	00¾
Redwood, Rough	per M feet,	18 00
" " No. 2	" "	14 00
" Surfaced	" "	30 00
" T. & G. 6 in. 12 ft. and over	" "	28 00
" " 6 in. 7 to 11 feet	" "	25 00
" " 6 in. under 7 feet	" "	20 00
" Rustic	" "	30 00
" " No. 2	" "	26 00
Redwood, T. & G. Beaded, 12 ft. and over	" "	30 00
" " " 7 to 11 ft	" "	25 00
" " " under 7 ft	" "	20 00
" Siding, ½ inch	" "	22 50
Pickets, Fancy	per M,	25 00
" Rough Pointed	"	16 00
" " Square	"	14 00
Battens, ½x3	per lineal foot,	00¾
Shingles	per M,	2 00
Laths, 1½	"	3 25
" 1½	"	3 75
NAILS—Rates were recently reduced to:—		
200 keg lots		2 50
100 "		2 60
Smaller quantities		2 70
PAINTS AND OILS:—		
Pioneer and Nevada White Lead, 1,000-lb. lots		6¾
" " " " " less quantities		7
Pioneer White Lead (local factory), 5-ton lots		6½
Cal. Linseed Oil, raw (single bbl. lots)		45
" " " boiled " " "		47½
Turpentine, per gallon		47
BRICK—California Building Description, soft, per 1,000		6 00
" " " red, " "		7 00
" " " hard " "		7 75

In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.

A SIMPLE and convenient way of obtaining the weight of cast iron when the number of cubic inches is known, is to divide the number of cubic inches by 4 and then add one per cent of the cubic inches. The result is exactly the same as if it had been multiplied by .26, the weight of one cubic inch.

Bush, bet Powell and Mason. Three-story frame.
O.—S. Ma nin.
A.—H. Geilfuss.
C.—J. H. McKay.
$6,800.

Brosnan, nr. Valencia. Two-story frame.
O. and B.—J. Perry.
Day work.
$2,200.

Broderick, nr. Hayes. Two-story frame.
O.—J. S. Antonelle.
A.—J. J. & T. D. Newsom.
C.—J. G. Adams.
$3,000.

Bluxome, bet. Fifth and Sixth. One-story brick warehouse.
O.—J. L. Moody.
A.—C. I. Havens.
C.—W. M. Fletcher.
$3,500.

Baker, nr. California. Two-story frame.
O. and B.—Geo. Hinkle.
Day work.
$4,000.

C

Castro, nr Fifteenth. Two-story frame.
O.—M. Burns.
A.—J. J. & T. D. Newsom.
C.—Spangler & Bawkins.
$2,800.

Clay, north side, bet. Scott and Devisadero. Two-story frame flats.
O.—G. I. Becht.
A.—Jas. E. Wolfe.
C.—Jas. Geary.
$5,000.

Clay, south side, bet. Scott and Devisadero. Two-story frame.
O. and B.—J. Hilbert.
Day work.
$2,000.

California, nr. Polk. Two-story frame flats.
O.—Allen & White.
A.—H. C. Macy.
C.—F. Klatt.
$3,800.

Capp, bet. Twentieth and Twenty-first. Two-story frame.
O.—M. J. Colby.
A.—T. J. Welsh.
C.—Doyle & Son.
$4,000.

D

Dolores, nr. Twenty-fourth. Two-story frame.
O.—J. B. Davis.
A.—C. Geddes.
C.—C. H. Murasky.
$2,500.

E

Elgin Park, bet. Herriman and Ridley. Three two-story frames.
O. and B.—G. Edwards.
Day work.
$10,000.

F

Fifth, cor. Brannan. Three-story frame hotel.
O.—F. Stoetzer.
A.—H. Geilfuss.
C.—F. Klatt.
$7,000.

Fulton, cor. Webster. Brick chimney and boiler house, and other improvements.
O.—National Brewery Co.
A.—H. Geilfuss.
C.—John McCarthy.
$12,000.

Fifteenth, nr. Castro. One story cottage.
O and B.—T. Dorsey.
Day work.
$2,000.

G

Geary, bet. Mason and Taylor. Three-story frame and brick basement.
O.—Wm. John.
A.—John & Zimmermann.
C.—B. Dryer.
$7,000.

Geary, bet. Webster and Fillmore. Additions.
O.—Mrs. Emma G. Beggs.
C.—J. B. Gonyeau.
$5,000.

Grove, bet. Gough and Octavia. Additions and alterations.
O.—J. D. H. Hoffman.
A.—W. Winterhalter.
C.—J hn McCann.
$2,000.

Grove, bet. Webster and Fillmore. Two-story and basement frame.
O.—H. Brune.
A.—H. Geilfuss.
C.—H. Weiss.
$7,500.

Guerrero, nr. Twenty-fifth. Additions.
O.—H. Bryant.
Day work.
$800.

H

Haight, southeast cor. Webster. Three story frame and stable.
O.—John W. Tamm.
A.—John & Zimmermann.
C.—A. Miller.
$8,000.

Haight, cor. Fillmore. Two-story frame.
O.—Chas. Hagmaier.
C.—G. G. Gelispee.
$2,300.

Howard, bet. Twenty-fifth and Twenty-sixth. Two-story frame flats.
O.—F. Gulbrandsen.
A.—P. R. Schmidt.
C.—Wickersham & Farrell.
$2,600.

Howard, bet. Twenty-fifth and Twenty-sixth. One-story and basement frame.
O.—Samuel Moote.
A.—Chas. I. Havens.
C.—W. B. Kreger.
$3,000.

L

Laguna, cor. California. Additions.
O.—W. Sumpkins.
C.—Farrell & Bell.
$3,000.

M

McLee Court, bet. Harrison and Bryant and Eighth and Ninth. Two-story frame.
O.—August Vetter.
A.—John & Zimmermann.
C.—Jacob Klein.
$2,600.

Market, nr. Eighth. One-story frame.
O. and B.—H. Bruns.
Day work.
$1,000.

Minna, bet. Ninth and Tenth. Three-story frame flats.
O.—D. McDonald.
A.—P. R. Schmidt.
C.—C. W. Beardslee.
$4,800.

Market, junction of Valencia. Brick additions to Cable House.
O. and B.—Market Street Cable Railway Co.
Day work.
$20,000.

Mississippi, cor. Santa Clara. One-story frame.
O.—Miss C. O. Neill.
A.—A. J. Barnett.
C.—T. B. Moore.
$1,700.

N

Ninth, cor. Mission. Additions.
O.—H. Dimond.
A.—C. J. Devlin.
$2,500.

O

Octavia, southeast cor. Geary. Two-story frame.
O.—J. Schroeder.
A.—John & Zimmermann.
C.—Wm. Pluns.
$6,500.

P

Page, cor. Devisadero. Two-story frame.
O.—B. Daniels.
C.—A. H. Bailey.
$4,000.

Pine, northeast cor. Gough. Two-story frame.
O.—Estate of Jas. Irvine.
A.—P. R. Schmidt.
C.—For Grading, W. T. Commary.
$200.

Seventeenth, bet. Valencia and Guerrero. Two two-story frames.
O.—John O. Neill.
A.—John & Zimmermann.
C.—J. Klein.
$5,000.

Steiner, nr. Bush. Two-story frame.
O.—G. L. Henzel.
Day work.
$2,500.

Seventeenth, cor. Folsom. Two-story frame factory.
O.—Sterling Furniture Mfg. Co.
C.—C H. Munster.
$3,000.

Seventeenth, cor. Folsom. One-story cottage.
O.—Wm. Foley.
A.—C. J. I. Devlin.
C.—J. W. Smith.
$805.

San Jose Ave, cor. Dolores. One-story cottage.
O.—Miss M. Ryan.
C.—H. J. McLaughlin.
$1,200.

Sutter, bet. Franklin & Gough. Two-story and basement frame.
O.—D. Cohn.
A.—Pissis & Moore.
C.—W. Langstaff.
$22,000.

Sutter, bet. Franklin and Gough. Alterations.
O.—J. Labreton.
A.—Pissis & Moore.
C.—A. Jackson.
$2,000.

T

Twenty-ninth, nr. Sanchez. One-story frame.
O.—J. H. Johnson.
C.—J. E. Leomer.
$1,500.

Townsend, between Third and Fourth. Brick warehouse.
O. and B.—L. Walker.
A.—C. J. I. Devlin.
$4,000.

Twenty-second, cor. Howard. Two-story stable
O. H. Zwieg.
A.—H. Geilfuss.
C.—F. Klatt.
$2,500.

Tehama, bet. Third and Fourth. Two-story and basement brick.
O.—Lenoronand Bros.
A.—Huerne & Everett.
C.—Geo. Richardson.
$5,870.

Twelfth Ave, cor. Clement. Two-story frame
O.—Lucy E. Marsh.
A.—S. & J. C. Newsom.
C.—Moor Bros.
$5,300.

V

Valencia, junction Twenty-fifth. One-story frame.
O.—S. P. R. R. Co.
Day work.
$1,200.

Van Ness, cor. Fell. Three-story frame.
O.—Mrs. Ryland.
A.—Jacob Lenzen.
C.—Anderson Bros.
$9,000.

Valencia, nr. cable car house. One-story frame.
O.—J. J. Haley.
C.—Stevens & Gray.
$5,000.

W

Washington, cor. Octavia. Additional contracts.
O.—Alex. Boyd.
A.—Curlett & Cuthbertson.
Plumbing—R. Rice.
$2,500.

Washington, nr Steiner (in rear). Two-story frame.
O.—Fannie M. Farrell.
C.—J. H. McKay.
$2,200.

MISCELLANEOUS.

San Jose—One-story frame, nr. County Hospital. O., C. F. Boss; A., Theodore Lenzen; C., R. Summers; $1,800. Park Ave., south side. One-story frame; O., P. Glein; A., Theodore Lenzen C., H. C. Skow; $900. Two-story frame on University Tract. A., Theodore Lenzen; C., A. J. McIlvain; $2,500. A frame pump house. O., San Jose Water Co.; A., Theodore Lenzen; C., G. E. McDougall; $700.
Fresno City—Two-story brick. O., J. M. Brady; A., Theodore Lenzen; $10,000.
Tulare City—Two-story and and basement brick. O., J. Goldman & Co.; A., H. C. Macy $10,000.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

ENGLISH AND AMERICAN VENETIAN BLINDS (IMPROVED).

The only perfect Venetian Blind in the market. The Blinds can be seen at the Mechanics' Fair. Or for samples, prices, and further information, address as below.

The following are a few of the owners who have adopted the HILL BLIND in preference to any other:—

L. M. Fabry, cor. Hayes and Laguna; architects, Miller & Armitage. John MacKenzie, cor. Grove and Broderick; architect, H. D. Mitchel. H. F. Bruns, cor. Geary and Taylor; architect, John M. Curtis. R. B. Gray, cor. Pacific and Van Ness; architect, John Marquis. Albert Meyer, Twentieth nr. Valencia; architect, J. T. Kidd. J. C. Weir, Post nr. Scott; architect, J. C. Weir. Dr. J. Rosenstirn, cor. Sutter and Hyde; architects, Pissis & Moore A. M. Starr, Washington nr. Fillmore; architects, S. & J. C. Newsom. J. H. McKay, cor. Washington and Steiner; architect, J. H. McKay. U. S. Government, Presidio Reservation; architect, J. H. Humphreys. Baron Von Schroder, 553 Harrison; architect, T. J. Welsh. G. G. Burnett, Larkin nr. Turk; architect, James E. Wolfe. A. F. Le Jeal, Clay bet. Franklin and Gough; architect, H. C. Macy. J. C. Weir, Post nr. Scott (second order); architect, J. C. Weir. P. Dupuy, Taylor nr. Turk; architect, W. H. Bayless. J. S. Morgan, Mission bet. Twenty-fifth and Twenty-sixth; architect, C. V. Pierce. N. W. Cole, Mission nr. Twenty fifth; architects, S. & J. C. Newsom. John Ritchie, Woodland; architect, W. H. Carson. Court House, Petaluma; architects, S. & J. C. Newsom. L. H. Sweeney, San Rafael; architects, Pissis & Moore. Court House, Santa Rosa; architects, S. & J. C. Newsom. Raymond Hotel, Pasadena; architect, J. H. Littlefield.

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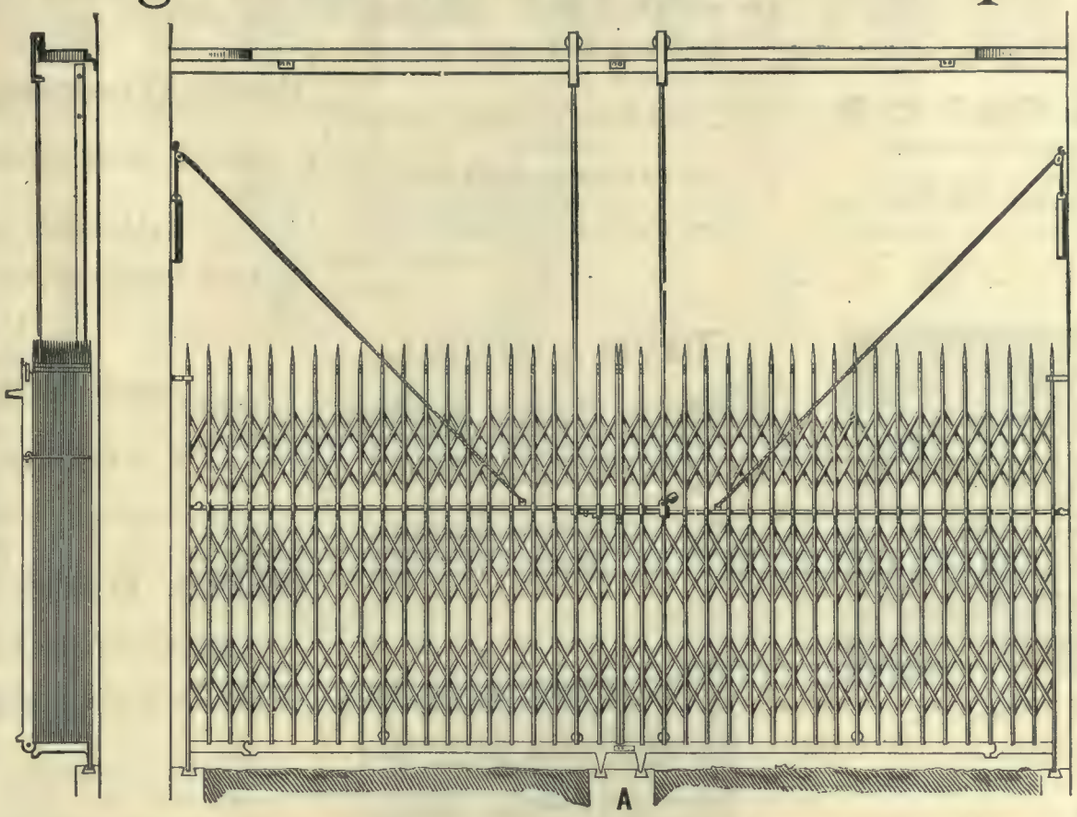
These Gates and Guards are manufactured to order in San Francisco, to fit and fill openings as desired. Descriptive Catalogues and Price List furnished.



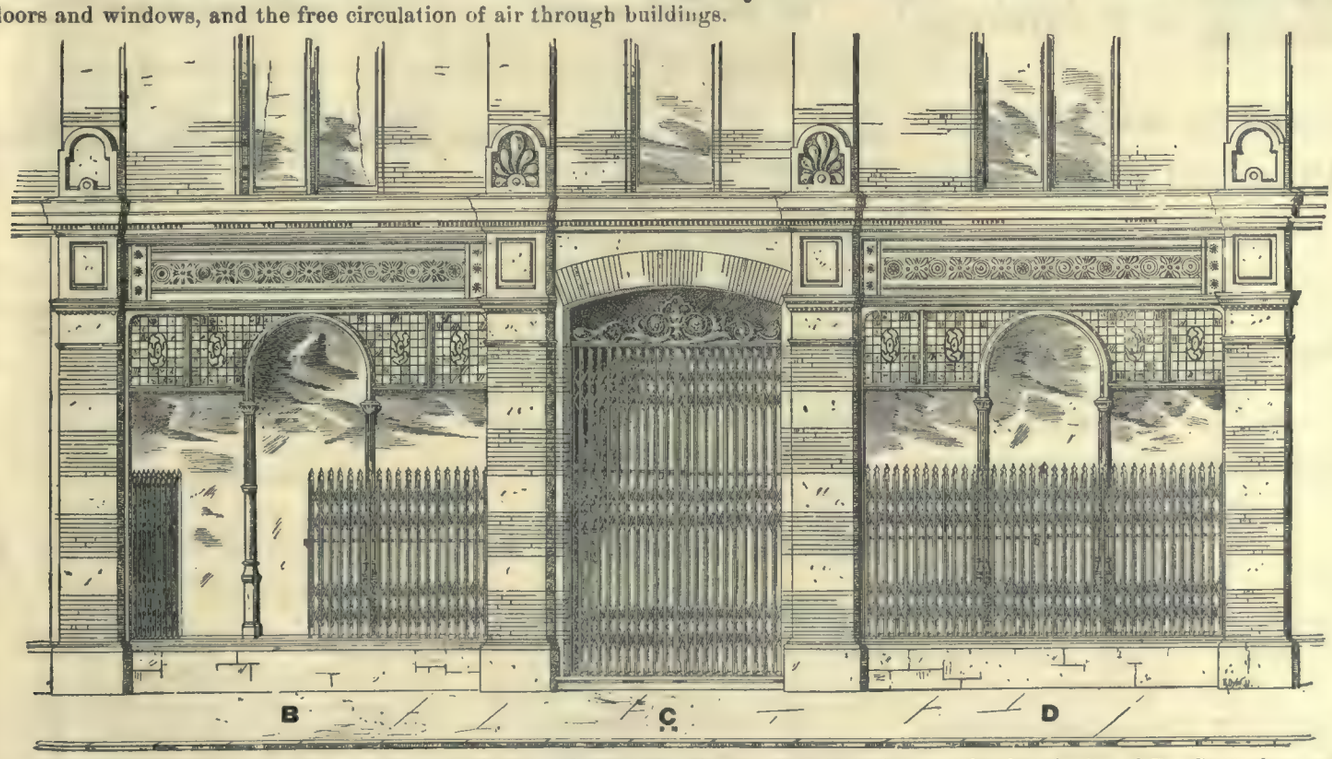
ABSOLUTE SATISFACTION GUARANTEED.—They are easily handled and adjusted, and are the most perfect device in use for the purposes for which they are intended.

Protect Your Homes and Business Houses

WITH ❋ THE ❋ IRON ❋ FOLDING ❋ GATES ❋ AND ❋ GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against **Burglars, Thieves, Tramps and Designing Persons,** and can be removed and replaced without unhinging. As a **Sanitary Device** they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.



DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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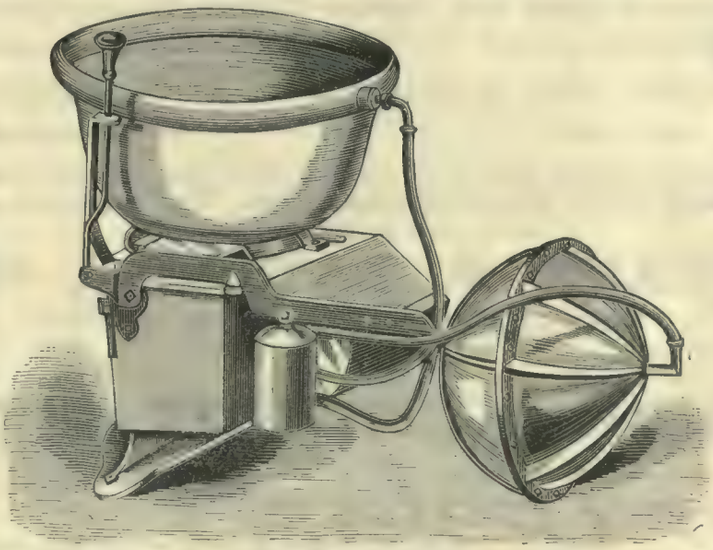
THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.



Economy!! Cleanliness! Health

Persons Engaged in Sanitary Enterprises,

ARCHITECTS, CONTRACTORS AND BUILDERS,

Are especially invited to examine the practical workings of

Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns *every house* into a SANITARIUM, and is an assurance to those who trust it, that neither *sewer gas* nor *noxious vapors* that invade our houses freighted with *disease* and *death*, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! *It has no "overflow,"* rendering it a positive seal against *sewer gas* and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.

W. E. STEVENS, Sole Agent for San Francisco, N. E. Cor. Larkin and Market Streets.

It will be a pleasure to demonstrate to all who may favor me with a call, the practical workings of the most perfect Water Closet that has, as yet, been placed before the Public.

STEVEN'S PATENT CHIMNEY.

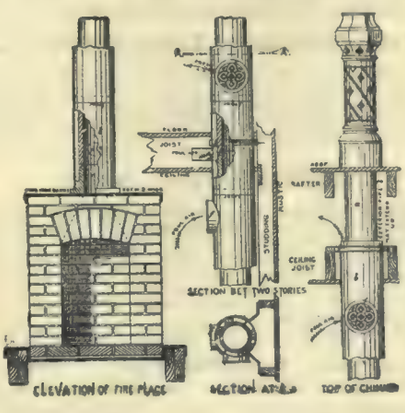
CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

WM. E. STEVENS,

MASON AND BUILDER,

SOLE OWNER.



VENTILATION, ETC.

At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

The lightest and safest patent chimney manufactured.

Approved by the Board of Supervisors.

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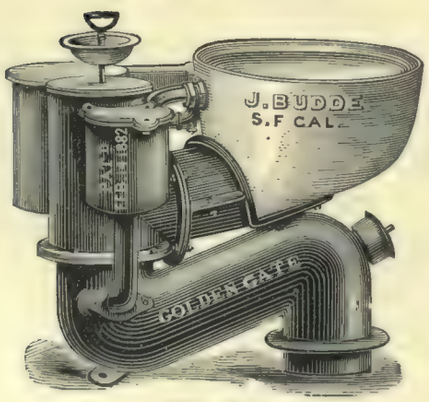
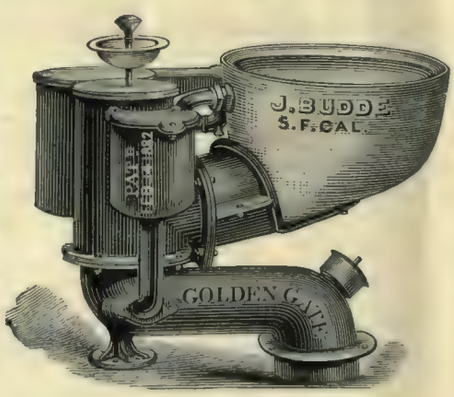


WITH TRAP.



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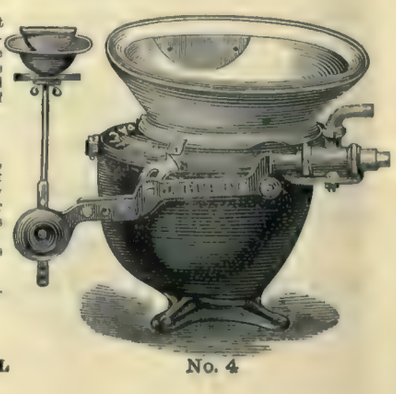

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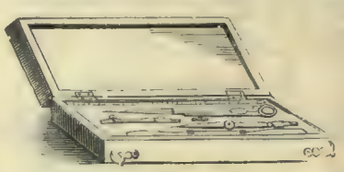

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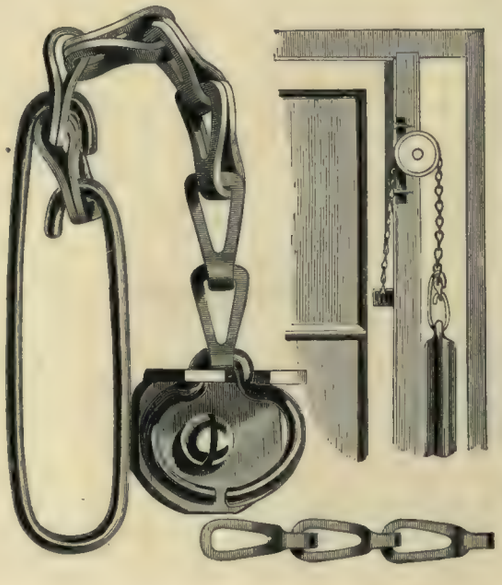

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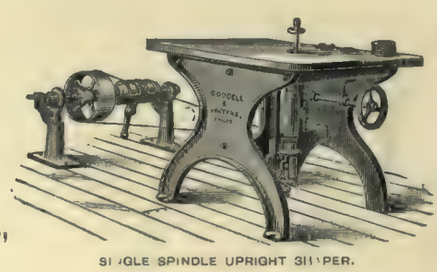

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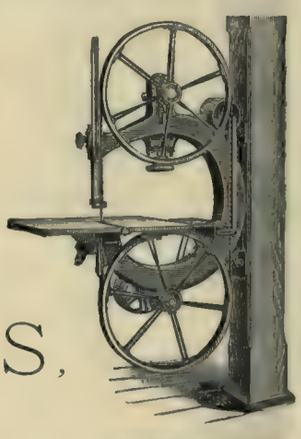

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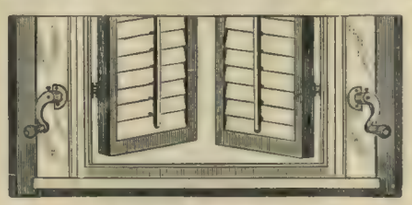

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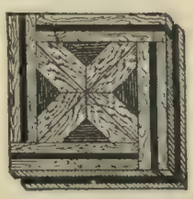

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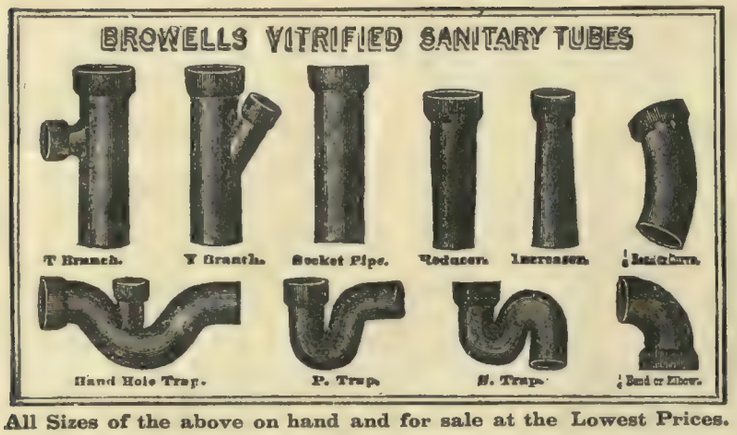

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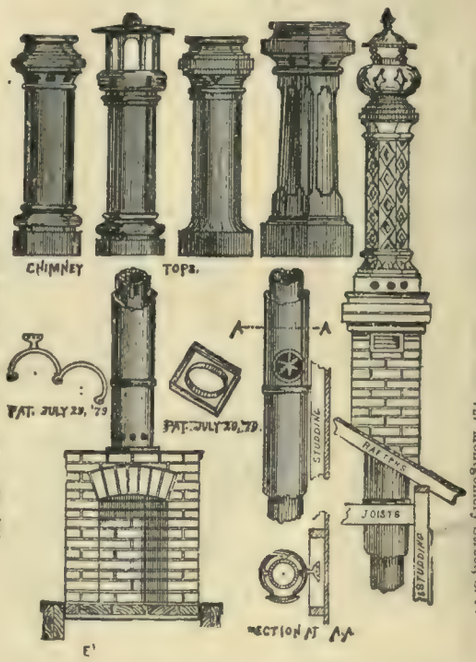

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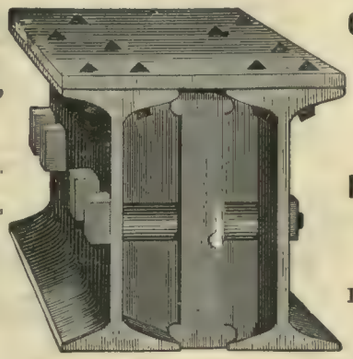

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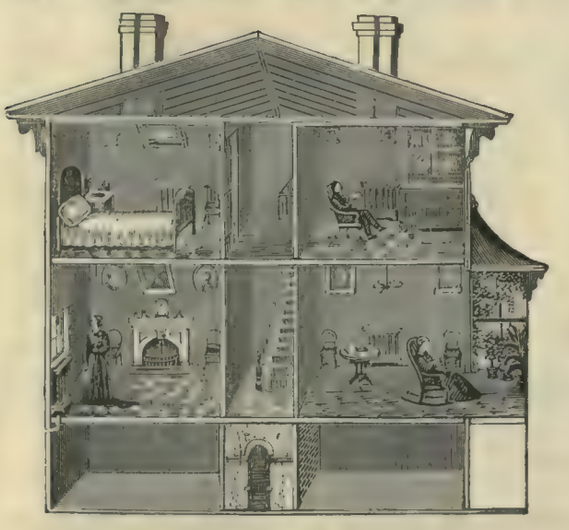

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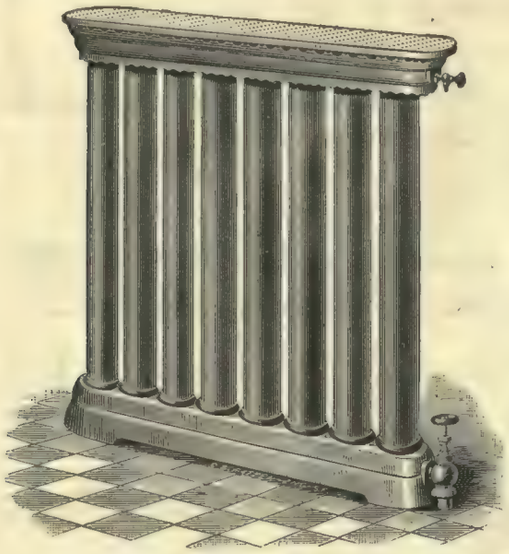

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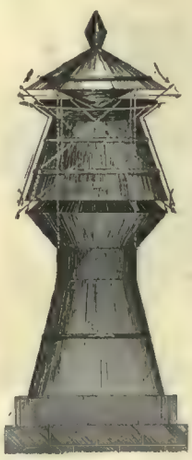

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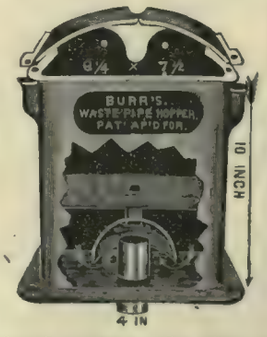

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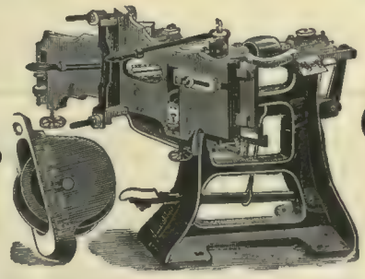

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NOTICE OUR HOLIDAY OFFER ON PAGE 161.

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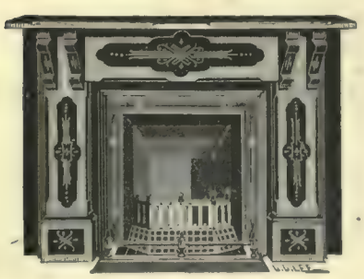

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Volume VII. Number 11.

THE

California Architect & Building News.

A MONTHLY JOURNAL,

Devoted to Architecture, Decorating, and Furnishing.

PRICE, $2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., NOVEMBER 15, 1886.

EIGHTY-FOURTH MONTHLY ISSUE.

Completion of Its Seventh Volume as a Monthly.

ITS publication being commenced in January, 1880, but one more number—that of December—remains to complete its *seventh* volume as a monthly—EIGHT, including Quarterly of 1879.

For the purpose of establishing this Journal, and securing for it the reputation it at present enjoys, of being *excelled by but few of like character published in the United States*, neither expense, effort, attention, nor personal, mental, or physical energies or application, have been spared. Upon the issue of reputation we submit the testimony of those who have read the contents of its columns, and given unsolicited testimony.

During the period named there have been issued and circulated of monthly issues, including two supplemental editions,

MORE THAN 350,000 COPIES.

No *monthly* journal, certainly none of class character published within the Pacific States, and but few class monthlies within the United States, can make an equal showing. And when all the material facts, conditions, and surroundings are considered, the conclusion that a great work has been performed, must be reached and admitted; for at the beginning there was scarce a single auxiliary available, in good and practically perfected shape. Crudeness and inexperience,

FROM EDITOR TO "PRINTER'S DEVIL,"

was the order of things, and in addition to *doing* that which was to be done, the secret of *how best to do it*, had to be learned.

WITH THE SAME DEGREE OF ENERGY AND ENTERPRISE IN EXERCISE DURING THE NEXT AND SUCCEEDING YEARS,

it is reasonable to anticipate greatly enlarged results, and to see this Journal excelled only by the very few old and long-established journals, published at the great centers of population and enterprises, where scores of millions of dollars are expended annually within a single city or county in the erection of buildings alone, and hundreds of thousands of mechanics and artisans are employed daily upon constructive works.

But to accomplish this, subscription patronage must be extensive and promptly paid, and advertising support liberal. The cost and expense of each issue must be paid monthly, whether or no the management receives its pay from patrons. Every patron who fails to pay up at the proper time, should bear in mind the fact, when he first opens each monthly number, that he is enjoying the instructions and benefits of a publication which has cost some one else a certain amount of money, and a sense of honesty and fair dealing should not only prompt, but compel immediate payment of subscription amount.

We hope that the patrons of this Journal will consider this important matter in its equitable and just light, and by or before or during the month of January,

SEND IN THEIR SUBSCRIPTIONS FOR 1887.

Be sure to obtain the December number.

Retrospect.

IN looking back over the past seven years, as founder and editor of this Journal, very many pleasing recollections present themselves, which will not be forgotten while life lasts.

The numerous expressions of personal good-will, friendly feelings, hearty wishes for our success, approval of efforts made, and many expressions of kindly import, have been sources of great pleasure.

While some men conduct and manage newspapers and journals for personal objects and purposes, and shrink from no act, however vile and depraved, to further their designs, nor any means, however corrupt, that will yield gold, even at the expense of truth, honor, or fairness, the chief object of every intelligent and honorable man editing, managing, or to any extent controlling a publication of any character, is to inform, instruct, and edify those who read, in printed form, the thoughts that flow from a pure mind. With truth and right as a bulwark, every good man who wields the pen as an editor, finds an eminent reward in the approbation of those who read his mind productions; not in a feeling of vanity that he has pleased, but in a sense of solid satisfaction at having so expressed himself as to receive approval from others, alike with himself, intelligent and well disposed.

While acknowledging personal defects and short-comings, and a lack of those marked scholarly and intellectual abilities, such as thousands in journalistic pursuits enjoy, we lay honest claim to purity of purpose in the conduct of this Journal. In no instance has there been any purpose to deceive, mislead, or misrepresent. An earnest desire to do justice to all, wrong to none, and to inform, instruct, and benefit our patrons, has been the controlling motive influencing every line from our pen or pencil.

Summary for November.

58 Frames		$282,335
16 Alterations and Additions		36,500
4 Brick		112,950
78 engagements.	Total cost	$431,785

Delinquent Subscribers.

IT is astonishing with what cool unconcern some people permit their subscription indebtedness to journals to remain unpaid. There seems to be no sense of shame or principle of right and fair dealings with such people; true, sometimes good and honest men *forget* to pay small indebtednesses, and the object of this notice is to refresh the memory of such good and honest men who have not paid up, that we will very thankfully receive the amount due us, if they will kindly forward the same during the present month.

How Axes Are Made.

IN the manufacture of axes, the material passes through twelve different operations before it is ready for labeling and boxing.

At first it is a rectangular piece of iron, about three-fourths of an inch thick, three and one-half inches wide, and about six inches long. The bit is of steel, and in some instances is inserted in a slit made in the iron, and in others it is drawn over the edge of the iron. There is a growing demand for axes made entirely of steel. The most important part of the process of manufacturing is tempering. "This is really where the axe is made," said a manufacturer. The grinding and polishing is the most laborious part of the process. It is here that the rough, irregular-shaped semblance of an axe is ground and polished until it is as bright as a mirror. It is said that the work will prove fatal within five years to any man who pursues it steadily. The air is filled with imperceptible dust from the stones, and many of the workmen tie small sponges saturated with water over their nostrils.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

Paper Read Before the S. F. Chapter American Institute Architects, by Fellow G. H. Sanders, Nov. 5, 1886.

MR. PRESIDENT AND GENTLEMEN: The resisting power of our building stones to vertical pressure having been at various times brought to our notice, we decided to settle the question by actual test. Finding that there was a hydraulic press at the miners' foundry, we decided to take advantage of the courtesy of the proprietors, who kindly placed the apparatus at our disposal. Through the good offices of P. H. Jackson all preparations were made, and early in the month all was ready, and the tests were made.

Having at sundry times collected a number of blocks of stone and granite and bricks of various kinds, we were enabled to test the following materials, viz.: Penryn granite, Miles freestone, Sutro Heights stone, San Jose sandstone, Stock brick, San Jose pressed brick, Chicago pressed brick, Lincoln Hollow brick, and some ordinary concrete blocks. Unfortunately, it soon transpired that the adjustment of the press was not such as to insure anything like a crucial test, the faces of the piston and abutment block not being parallel with each other and the faces of both. But especially the abutment block, which was loosely held between two jaws of an upright stanchion piece (see diagram), was quite rough and rusty from exposure to the air, so that though hoop iron was used to pack and adjust the abutment block, it was impossible with such means to bring their faces into anything like parallelism. The hurry, too, with which the experiments were conducted prevented the possibility of those careful observations and abundant notes which render such experiments really valuable.

Perhaps after all the chief benefit derived from the tests was finding out, in view of a future occasion, how *not* to do it. Nevertheless, the experiments were of a great interest. In the first place, the question of bedding occurs. Some of the blocks were crushed between pine boards, others between sheets of thick lead. The result seemed to be indifferent, in some cases the lead, and in others the pine, seeming to gain the higher result. In one case a brick (the Stock brick) was bedded in cement, but the cement was not allowed sufficient time to set, so that the result was nearly *nil*. We believe that every specimen should be bedded between plates of planed iron in pure, sifted cement, and thoroughly set, prepared, perhaps, a month or more beforehand, and then placed between truly planed, mathematically adjusted surfaces of the ram. Under such circumstances alone can uniform and reliable results be looked for with any confidence. Secondly, it also appears, from the results which will be laid before you, that, as probably might be expected, the largest specimens give the lowest results as to the relative resistance per square inch of area. Thus a block of sandstone 3x3x3 gives a resistance of 75 tons ultimate crushing strength, or a resistance per square inch of area of 9,312½ pounds; whereas, a block of Penryn granite 6x6x6 gives an ultimate crushing strength of 128 tons, but a resistance per square inch of surface of only 7,727⅜ pounds. Possibly this is due, to some extent, to the greater difficulty of adjusting the pressure over the whole of a large surface equally, than in the case of a surface ¼ the area. Otherwise one would suppose that the greater bulk should offer as proportionately greater a resistance.

One other point it may be well to notice, namely, the almost uniform occurrence of cracks, spalting, or other partial failure of the material, early in the process of crushing. This is no doubt due to the gradual adjustment of the blocks to the conditions of pressure brought to bear upon them, after which, every part having been brought to an equal bearing, the block is in a position to sustain the pressure until the ultimate limit of resistance is reached. On this account, granting that the surfaces of the ram and the surfaces of the best blocks can be brought to perfect adjustment, there is no doubt that, as some experimenters have found, the highest result would be reached without any intervening bedding substance whatever.

STONE TESTS.

No. 1. SAN JOSE SANDSTONE.
Block 6x6x6 = area 36 inches. (Note—between sheets of lead.)
20 tons spalted on edge.
50 " " "
70 " badly crushed—3,944½ lbs., 1 inch area.

No. 2. SAN JOSE SANDSTONE.
Block 6x6x6 = area 36. (Between sheets of lead.)
10 tons slightly cracked.
55 " bulged on top.
75 " split and crushed—4,166⅔ lbs., 1 inch area.

No. 3. MILES FREESTONE.
6x5½x6 = area 33.
60 tons spalted on top.
70 " cracked in middle.
75 " " "
85 " " in opening.
100 " crushed 6,060⅔ lbs., 1 inch area.

No. 4. PENRYN GRANITE.
6x5½x6 = area 33.
95 tons cracks on top.
105 " more cracks.
110 " badly cracked.
115 " " "
128 " " crushed—7,727 3-11 lbs., 1 inch area.

No. 5. SUTRO HEIGHTS METAMORPHIC SANDSTONE.
4x4x3⅛ = area 16.
15 tons corner came off.
30 " cracked on top.
55 " " in middle.
60 " crushed—7,500 lbs., 1 inch area.

No. 6. BLOCK OF CONCRETE (made about Jan. 1, 1886).
Composed of 2 vols. fine gravel.
" " 1 " coarse gravel.
" " 2 " broken rock.
" " 1 " Portland cement.
Or 5 of rock to 1 of " "
4 in. x6 in. x4 in. thick (6 months old).
20 tons cracked.
30 " crushed 2,500 lbs., 1 inch area.

No. 7. BLOCK OF CONCRETE (same age and size).
20 tons cracked.
32 " crushed—2,666 lbs., 1 inch area.

No. 8. SAN JOSE SANDSTONE BRICK.
8x4¼x2⅜ = 31½ in. area.
Ram, 8 inches diameter.
15 tons cracked on top.
30 " badly cracked at ends.
55 " cracked in middle.
80 " crushed on top.
85 " thoroughly crushed—5,312½ lbs., 1 inch area.
(The above placed between lead plates.)

No. 9. SAN JOSE SANDSTONE BRICK. (Placed between pine boards ⅜ inches thick.)
60 tons cracked.
80 " crushed—5,000 lbs., 1 inch area.

No. 10. SAN JOSE SANDSTONE BLOCK. (Placed between lead plates.)
3x3x3.
15 tons spalted.
25 " crushed—5,555 lbs., 1 inch area.

No. 11. SAN JOSE SANDSTONE BLOCK. (Placed between pine boards.)
4x4x3⅛.
70 tons cracked.
75 " crushed suddenly and completely—9,312½ lbs., 1 inch area.

No. 12. 4⅛x3⅜x4⅛ block (between pine boards.)
30 tons cracked.
40 " crushed—5,333⅓ lbs., 1 inch area.

No. 13. SACRAMENTO STOCK BRICK (rough).
4x8x2½ (between wood) = 32 inches area.
20 tons cracked.
40 " crushed—2,500 lbs., 1 inch area.

No. 14. PETERSEN'S SAN JOSE PRESSED BRICK.
4x7¼x2⅜ = 29 inches area.
15 tons cracked.
30 " badly cracked.
40 " crushed—2,758⅔ lbs., 1 inch area.

No. 15. CHICAGO PRESSED BRICK. 20 inches area.
20 tons cracked.
40 " crushing.
60 " crushed—6,000 lbs., 1 inch area.

No. 16. SALMON BRICK (pressed).
4x8½x2½ = say 31 inches area.
10 tons cracked.
35 " crushed—2,258 lbs., 1 inch area.

No. 17. GLADDING, MCBEAN & CO.'S HOLLOW BRICK.
4⅛x8x4 = 32 inches area.
Crushed at 2½ tons—156 lbs., 1 inch area.
Cracked at about 1 ton's pressure.
Splitting lengthwise. (Surfaces very much in wind.)

In all cases the splitting commenced at the top of the blocks, and worse to the left side of the blocks, indicating a bad adjustment of the apparatus. The surfaces of the ram and the contra block were not smooth, especially the latter, being rusty and very rough, and making a very irregular impression in the lead plates and pine boards. This fact would have to be taken into account in judgment of the respective values of the above experiments. In the stone blocks, too, it was not possible to have the surfaces crushed parallel with natural bed in all cases, the bed being in nearly all cases perpendicular to the line of pressure, the blocks and bricks in nearly all cases splitting lengthwise, and bulging up on top (rarely on bottom) and spalting. One small San Jose block crushed on natural bed at the high figure of 9,312½ pounds per square inch of area, being a block 4 inches square and 3⅛ inches thick.

A Closet Shelf.

IF there is anything that adds to one's comfort in an emergency, it is a closet shelf prepared for emergencies. That is clear. Accidents, nervousness, sudden pain, midnight calls for help, parcels that want doing up, broken crockery or ornaments, all find a ready answer to their calls on this carefully prepared shelf. It is so easy to prepare and keep in order, can be small or large, as one decides to confine its contents to a few things or enlarge to many. I intend to give a list for the smallest one that I think it advisable for any one to keep, be she keeping house or boarding. First of all come the things that are to be ready for illness, sudden or otherwise,—camphor, for faintness, headache, or a sudden attack of diarrhea, although, for the latter, there is nothing equal to a tablespoonful of raw flour in a glass of cold water, to be taken in two doses half an hour apart. A closely covered little box of raw flour is easily kept on the shelf, to be often renewed, lest it get musty. A small tin can of flour and mustard, mixed in equal parts, ready to make into a paste for a mustard plaster, is to me a pleasanter arrangement for a hastily required mustard plaster than the "mustard leaves" ready at the drug stores. In a little box beside this can should be old linen and cotton rags, for the other half of the plaster, as well as for cuts or bruises; also a strip of flannel a "finger" broad and three-quarters of a yard long, to put upon the outside of a cotton cloth, several times folded and wet in cold water, for a compress for a sore throat. Keep your case of court plaster in this box of rags, and a spool of white linen thread, both conveniently near the necessary pair of small scissors.

Camphorated oil, which is best when made at home by dissolving camphor gum in warm olive oil until no more will dissolve, is invaluable for sore throats and chests, or a cold on the lungs. Rub in well, and there will be no cold taken afterwards, as there is after the old-fashioned "goose grease." Vaseline is good for this purpose also, as well as for many others that every one knows about. There is nothing, for chapped hands, equal to glycerine and tincture of hydrastis, fifteen drops of the latter to an ounce of glycerine. Wash the hands in warm water thoroughly, and, before wiping, rub in a little or good deal of the mixture, according to the need.

Tannin, a dry, greenish powder, is a great comfort where a sudden severe nose-bleed occurs in the family. Once snuffing it up well into the nostrils generally ends the trouble. Tannin forms, with water, a good gargle for a sore throat, as it is a healthy astringent. It is the best thing I know of for severe chafing, especially for infants. The effect is almost magical. Pond's extract of hamamelis is another indispensable for this emergency shelf. It is really good for nearly all the ills mentioned on the wrapper of the bottle. An excellent way to get hamamelis is by the quart, and it is the cheaper way. On principle, my emergency shelf always holds olive oil, alcohol, and ammonia. Hot summer days, and headaches, find me grateful for my bay rum bottle. I quite forgot to put arnica in my remedy list, although it is decidedly second to tincture of calendula for cuts or wounds. Both are to be diluted with water when used.

It is very pleasant to turn from the above list and point you to my "Perfect" mucilage bottle; that is its commercial name, and well deserved. How many times you will use it if convenient on its shelf. Next it should stand a bottle of stratena, or one of its relations in the cement family. If Clytie's head comes off, or the butter dish cover breaks in two, or your favorite china cup gets into so many bits that it will only do for an ornament after a vigorous use of the cement, you will be glad of the remedy. A bottle of shoe polish, or box of shoe paste, is a handy thing when one dresses in a hurry. Last, but not least, comes a ball of twine. If you are fortunate enough to possess a silk bag, with pretty ribbons and pair of scissors, to hold your string ball, it is delightful. Otherwise, a ball on the end of the emergency shelf will save much hunting for string, and much vexation of spirit.

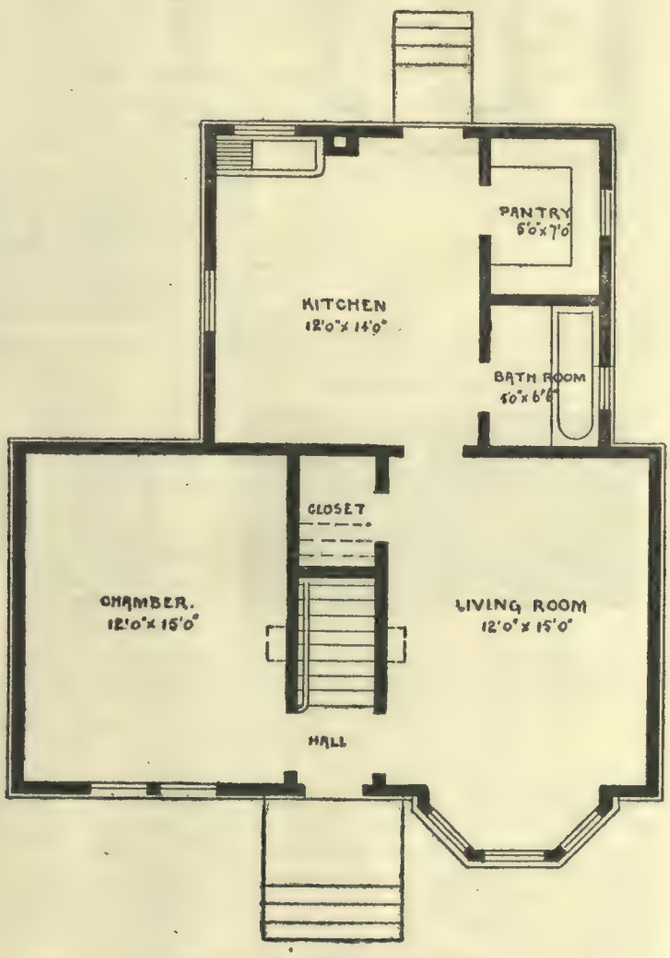
It Didn't Work.

WHEN the employes in an Indiana furniture factory, operated by a German, struck for eight hours a day, he granted it; but when they wanted ten hours' pay for eight hours' work, he called them up and said:—

"My frens, maype I do ash you like. I haf an order from Shegago for ten dozen shairs. I vill sheep him eight dozen, und bill him for ten. If he doan't kick on me, it shows me dot der rule vorks both ways und we vhas all right."

It is needless to add that the idea didn't work; and that his men are receiving eight hours' pay.

FRONT ELEVATION OF A ONE OR ONE-AND-A-HALF-STORY COTTAGE.



PLAN FOR ABOVE ELEVATION.

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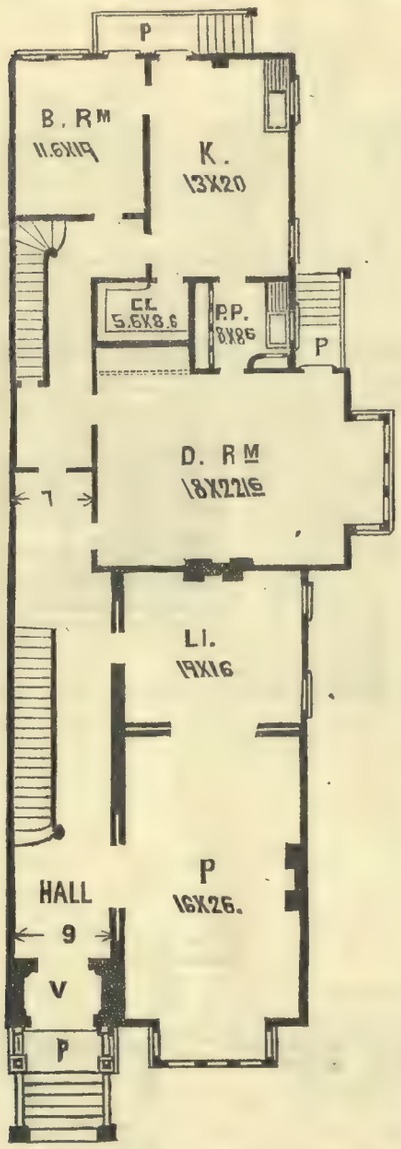

First Floor Plan City Dwelling.

A Practical Way to Describe the Arc of a Circle too Large for a Pair of Dividers.

Ans.—Let *a c* be the cord, and *o b* the height of the required arc, as laid down *on the drawing*. On a separate piece of paper, *s e m n*, draw *a c*, *o b*, and *a b*, also *b e* parallel to the cord *a c*. It is well to make *b s* and *b e* a little longer than *a b*. Then cut off the paper carefully along the lines *s b* and *b e*, so as to leave remaining only the strip *s a b e m n*. Now if the straight sides *s b* and *b e* be applied to the drawing so that any parts of them shall touch at the same time the points *a* and *b*, or *b* and *c*, the point *b* on the strip will be in the circumference of the arc, and may be pricked off. Thus any number of points in the arc may be found, and afterwards united to form the curve.

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Plans for a City Residence.

THE accompanying plans were adopted by a gentleman in this city whose principal design seemed to be the comfort of his family, with due regard to modern conveniences. He evidently found favor with the rule, "We must begin by observing what has already pleased, if we wish to judge rightly as to what will please in any future production."

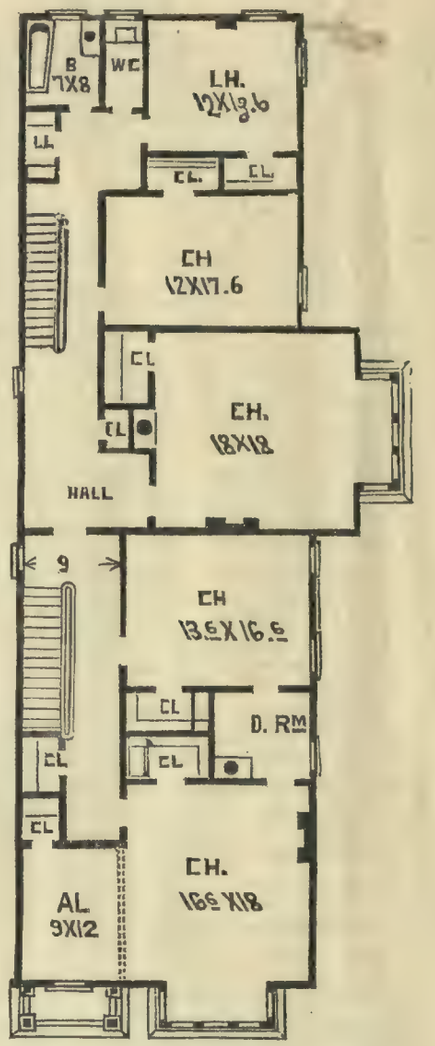
The first floor contains a large parlor, connected with a library by sliding doors. In close proximity is a spacious dining-room, with place for sideboard, and an ample butler's pantry, with sink, lockers, cupboard, shelves, etc. The pantry is in direct communication with the kitchen, a large, well-lighted, and ventilated room. From the kitchen access is easily gained to the basement by means of the rear stairs shown, and also to the yard, and to a comfortable servant's bedroom.

The second floor contains five good-sized bedrooms, all amply supplied with closets. Special pains has been taken in the plans shown to have a place for each and every article of furniture necessary to a bedroom. It will be noticed that in each of the upper and lower halls there is shown a door, placed so that all draughts can be shut off between the front and rear stairs. No cornices are shown, these being left to the consideration of those who desire to use, as a model, the plans shown in our engravings.

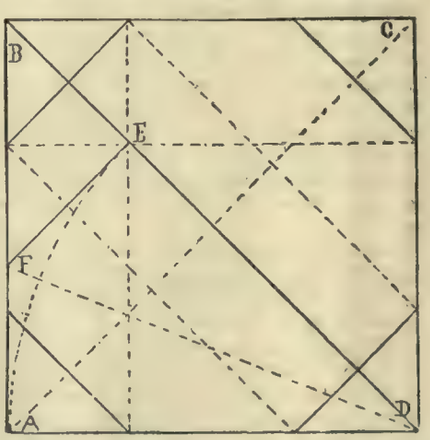
Earthquakes.

IN view of the wholesale destruction of property, coupled with loss of life, wrought by the recent earthquake at Charleston, South Carolina, the movement of which was felt from the Atlantic to the Mississippi, it seems proper to raise the question, whether we are to assume that a recurrence of the calamity is improbable, or are to adopt a method of construction in our larger buildings which will withstand similar strain. The Mexican and South American States are frequent sufferers from this cause; the Pacific Coast is subject to shocks of greater or less severity; and, though Charleston has not experienced a severe shock since 1811, it is not at all improbable that a like disaster may occur within the next twenty years. It would certainly be the part of wisdom for the city of Charleston, while reconstructing her shattered buildings, to seek a measurable security from future demolition, at the expense of an increased expenditure in construction. The havoc that would be worked in any of our Northern cities by a similar shock, may well be imagined by one familiar with the method frequently employed in the erection of structures for commercial and manufacturing purposes. To place a roof on four walls of brick or stone, built to a height of from three to eight stories, without cross walls and lateral bracing in exterior walls, is an invitation to ruin by earthquake or by fire. If Americans are building for the pleasure of seeing their work tumble in before fire or earthquake, too many have hit on the proper construction to insure this result. If we are building that our work may outlast this generation and the ones hereafter, we need to inaugurate a new era, in which the skin-builder shall starve for the lack of a job.—*Inland Architect.*

Dr. E. Parmley Brown says that the excessive use of common salt is one of the main factors in the destruction of human teeth.



Second-Floor Plan City Dwelling.



To find the sides of an eight-sided polygon, draw the square A B C and D, and join D B. From D as a center, with D A as a radius, describe an arc, cutting D B in E. Then E B equals the side of polygon, and E F D equals the angle to mitre the sides.

By the use of the square to mitre the sides, place the square with E D on the blade, and E B on the tongue; mark from the latter for the angle required.

By calculation—let E D equal 18x18 inches, equal 324 plus 324 inches, equal 648 inches, square root of which is 25.4558 inches, minus 18 inches, equals 7.4558 inches, or 7 and 7-16ths inches equal E B.

By proportion—7.4558 inches : : 18 inches : 7.5 inches; 7.5x18 inches equal 135 inches; divided by 7.4558 inches equal 18.1067 inches, or 18 and 3-32d inches equal E D.

Christmas Presents to Mechanics.

We have on hand the largest assortment of mechanical and scientific works to be found in California. These we are determined to close out, as by the beginning of the year, a new management will assume control of this Journal. We publish below a list of works now on hand, with the publisher's price. TO ALL PURCHASERS WE WILL ALLOW A DISCOUNT OF FIFTEEN PER CENT. Select any work from the list. DEDUCT ONE-SEVENTH OF THE PRICE. Forward the money to this office, and by return mail you will receive the book.

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WIVES OF MECHANICS SHOULD ORDER SOME OF THE ABOVE FOR PRESENTS TO THEIR HUSBANDS.

NOTICE PARTICULARLY OUR OFFER. Select any number of Books from list; DEDUCT ONE-SEVENTH of the Price; forward the money to this office, and the books will be sent by return mail.

Remember also that until January 15, 1887, we will forward any book printed at the same reduction, provided any one of above books is contained in order.

Back Bound Volumes of this Journal from 1880 to 1885 will be sent to any address, upon receipt of TWO DOLLARS.

We pay postage on all books ordered from this office.

A Country Villa.

Lath do not make a very good showing, it is said, on the average dealer's books. There is no profit in them. The handling costs too much in proportion to the quantity and value of the stock turned over. Practically there is as much labor expended in moving a bundle of lath as there is a bunch of shingles, which is worth several times as much. No one ever saw a lumber-shover wrestling with more than one bundle of lath at a time, and though it is a small load, he makes out that it shall be a full one. The margin of twenty-five to thirty-five cents which there is in this item for the dealer, does not cover the expense of handling them through the yard, and in consequence the lath account usually shows a balance on the wrong side. But yards must keep them, whether they pay or not. They are like a good many of the small notions that many kinds of retail merchants are obliged to handle; there is no money in them, but they must be kept and sold just the same, because the buyer demands that he shall be accommodated to that extent.—*Ex.*

How to Lay off an Octagon.

If the timber is not square, mark off the largest square that can be formed. Draw a line from corner to corner, as A B. Mark the distance of one side of the square, as A D, on the diagonal A B, at C. Draw C K parallel to E B. Set a gauge to B K, and run this distance on all four sides of the square. Work off the corners, and a perfect octagon will be formed.

New Motion to a Grindstone.

An improvement in the driving of grinding stones and emery wheels is that by which the wheel is given a reciprocating lateral motion in addition to its rotation. Every one has noticed the advantage of moving a tool from side to side on a hand grindstone so as to equalize the attrition on the different parts of the edge. It is found that by making the grindstone move and keeping the tool still a more perfect result is attained, while the detached particles of steel have an opportunity to drop off the grindstone instead of being crushed into it, and the wear of the stone and the heating of the tool are both greatly diminished.

A Country Villa.

The elevation and plans here presented will convey to those intending to build an idea of how a comfortable, picturesque building should be erected. We are prepared to furnish the plans for this or any other kind of a dwelling, in any part of California.

A consideration in the use of stone for important buildings is that of having it quarried, stored, and seasoned for some time before being hewn and placed in the walls. By these means the natural sap is allowed to evaporate, and the stone tested as to its quality. This would add to the cost, but the money would be well spent if this precaution prevented the wasting of stones from the rains, frosts, or atmospheric influences, which, especially in our cities, soon act on the surface of a newly quarried stone. Stone that is quarried one day and built the next is in a green state, and unfit for use. It is not in condition—it is at its weakest—its pores are open and ready to absorb not only moisture, but the gaseous and disfiguring influences which tend to its destruction. Every hewer knows that to get a polish on a stone that has lain for some time is very different from what he gets on one fresh from the quarry, and this of itself should be sufficient to warrant the precaution recommended, which is to thoroughly season the stone before using it.

An Octagon by the Use of the Square.

Along the face of the "tongue" will be noticed two parallel lines, with a row of dots interspersed with figures, between them. The figures simply show that the dots are numbered by tens. This is known as the "eight square," or octagonal scale. This scale is based upon the fact that each face of a regular octagonal scale is almost exactly five-twelfths of its shortest diameter.

In using the scale, the timber is first squared to the diameter desired for the octagon, and a line drawn from the center of each face to the center of the opposite face; then, with the dividers, as many spaces of the scale are taken as there are inches in the diameter of the timber, and the distance thus obtained is set off each way from the center line upon each face, which gives the position of the angles of the octagon.

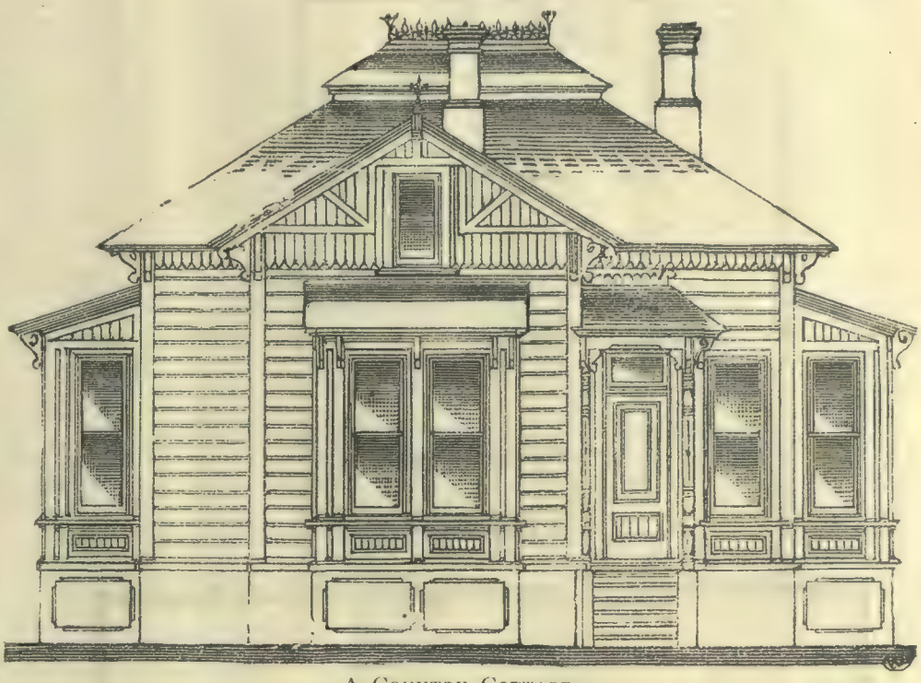
For instance: let A B C D be the square end of a stick of timber six inches on a side. Draw the center lines A B and C D from the center of the faces A and C. Now with the dividers take from the scale 6 spaces, and lay off this space on each side from the center of each; as A 1, A 8, D 2, D 3, B 4, B 5, C 6, C 7; join by a line the points 1 2, also 3 4, 5 6, and 7 8; and you have the outline of the largest octagon stick that can be cut from this piece of timber.

The United States is the only country in the world which spends more for schools than for military and naval armament. It spends about $93,000,000 for education and $47,000,000 for war. It spends for education nearly three times as much as Great Britain, three times as much as Germany, and six times as much as France.

A piece of iron rolled in the new Falcon Mills at Niles the other day is as thin as a sheet of ordinary paper. It would take 150 sheets to constitute one inch in thickness. The mill made this piece just to see how thin they could roll.

A Country Cottage.

THE accompanying plan will suggest a few ideas to those seeking for the elevation of a country cottage, who desire beauty combined with distinctive features, at a low cost.

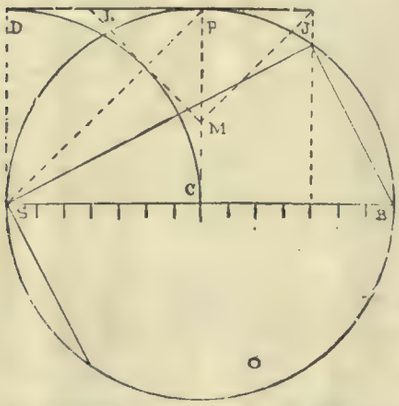


A COUNTRY COTTAGE.

Priming for Wood, Paper, Lime, or Hard Plaster Walls.

A SUPERIOR priming for these purposes, which, it is claimed by the inventor, Herr Kall, of Heidelburg, is cheaper than linseed oil, and closes the pores so perfectly that less paint is required than with oil and red lead. Priming coat is thus described: The substitute used for boiled oil consists of ten parts of boiled blood, as furnished by the slaughter-houses, with one part of air-slacked lime sifted into it through a fine sieve. The two having been well mixed are left standing for twenty-four hours. The scum that collects on top is cleared off, and the solid portion is broken off from the lime at the bottom; the latter is stirred up with water, left to settle, and the water poured off after the lime has settled. The clear liquid is well mixed up with the solid substance before mentioned. The mass is left standing for ten or twelve days, after which a solution of potash permanganate is added, which decolorizes it and prevents putrefaction. The mixture is then stirred up, diluted with more water to give it the consistence of very thin size, filtered, and then a few drops of oil of lavender added. The preparation, if preserved in closed vessels, keeps a long time without change. A single coat will suffice for priming.

How to Square a Circle.



TO square the circle is to find the circumference when the radius is given, and for effecting this it is necessary to know the ratio of the diameter to the circumference.

To find the circumference when the radius is given geometrically:—

FIG. 1.—Let C S equal the radius; from the points C and S as centers, describe the circle and arc C D; tangent to the arc and circle draw D P. Join S P; at right angles to S P draw L M tangent to the arc D C, and M J equal M L parallel to S P. Then D J equals one-fourth ($\frac{1}{4}$) of the circumference of the circle, and S J equals the side of a square equal in area to the area of the circle.

To find the ratio of the diameter to the circumference:—

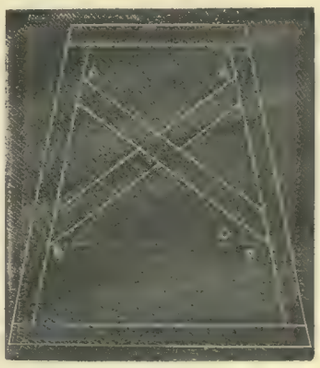
Divide S B, the diameter, into fourteen equal parts, eleven of the parts equal D J or one-fourth of the circumference, multiplied by four equals forty-four, divided by two equals twenty-two; fourteen divided by two equals seven; equal to seven twenty-seconds, the ratio required.

The Law as to Party Walls.

A PARTY wall is the wall dividing lands of different proprietors, used in common for the support of structures on both sides. At common law an owner who erects a wall for his own buildings which is capable of being used by an adjoining proprietor, cannot compel such proprietor, when he shall build next to it, to pay for any portion of the cost of such wall. On the other hand, the adjoining proprietor has no right to make any use of such wall without consent of the owner, and the consequences may be the erection of two walls side by side, when one would answer all purposes. This convenience is often secured by an agreement to erect a wall for common use, one-half on each other's land, the parties to divide the expense; if only one is to build at the time, he gets a return from the other party of half of what it costs him. Under such an agreement, each has an easement in the land of the other while the wall stands, and this accompanies the title in sales and descent. But if the wall is destroyed by decay or accident, the easement is gone, unless by a deed such contingency is provided for. Repairs to party walls are to be borne equally, but if one has occasion to strengthen or improve them for a more extensive building than was at first contemplated, he cannot compel the other to divide the expense with him. In some States there are statutes regulating the rights in party walls, and one may undoubtedly acquire rights by prescription on a wall built by another, which he has long been allowed to use for the support of his own structure.

A PLUMBER was sent to the house of a wealthy stock-broker to execute some repairs. He was taken by the butler into the dining-room, and was beginning his work, when the lady of the house entered. "John," said she, with a conspicuous glance toward the plumber, "remove the silver from the sideboard and lock it up at once." But the man of lead was in nowise disconcerted. "Tom," said he to his apprentice, who accompanied him, "take my watch and my chain, and these coppers, home to my wife at once. There seems to be dishonest people about this house."

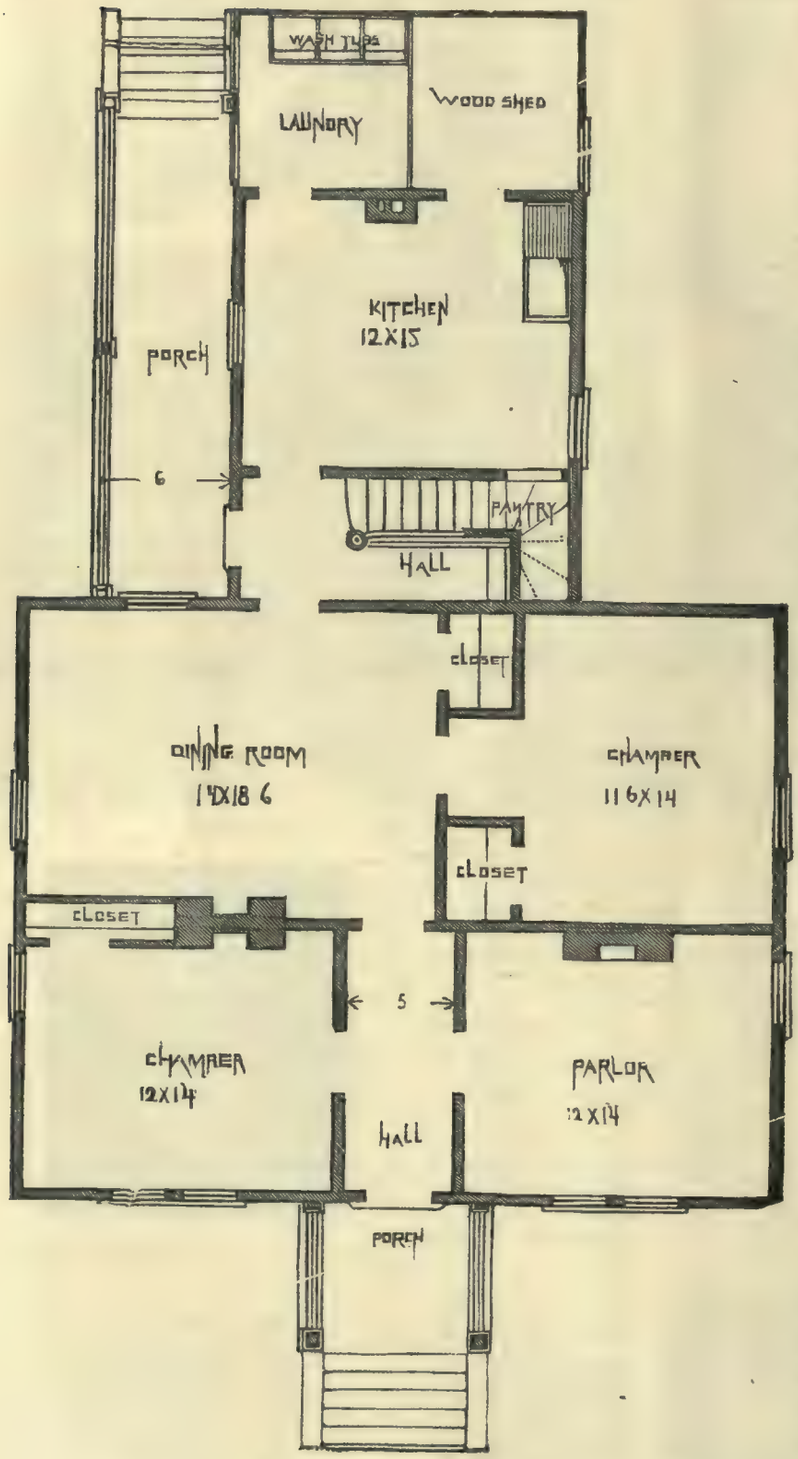
BUSINESS MANAGER OF ARCHITECT: What is the rule for finding the length of braces between two posts, when they incline one foot in six feet rise?



The cut represents a frame, the posts of which incline one foot in six feet rise. Let the distance B B represent seven feet. The braces are run at an angle of 45°. The post inclining one foot in six, leaves the distance at A A six feet. We have given the rule in a previous number. In this case the brace would be 8 ft. 5 13-16 inches.

Permanent and Unwashable Colors on Walls.

A METHOD of applying paint to a wall so as to secure the greatest possible permanency, is to have the wall coated with mortar composed of lime and sand, and to throw over it a very weak wash of water with which potash silicate is mixed; then proceed to paint, and syringe the surface with a strong solution of the potash silicate. There are, however, a number of colors to be avoided in this process, among which are cadmium yellow, Naples yellow, baryta chromate, chrome-red, ultramarine, cobalt blue and green, chrome green, ivory black; also lime carbonate, baryta white, and zinc white, as the alkali would injure some of these and destroy others. The pigments should be mixed with potash silicate. The latter should be applied warm on the painted surface.



A CHEAP COUNTRY HOME.

A Cheap Country Home.

THE above plans are self-explanatory, every room and its dimensions being plainly and accurately marked.

IN acquiring Burmah, England has got possession of vast forests of teak, which, never plentiful in India, was becoming commercially very rare. Of all the woods grown in the East this is the most valuable. It is neither too heavy nor too hard; it does not warp or split under exposure to heat and dampness; it contains an essential oil which prevents its rotting under wet conditions, and, at the same time, acts as a preservative to iron and repels the destructive white ants; it is, withal, a handsome wood, of several varieties of color and grain, and takes a good polish.

THE beautiful embroidery upon linen and muslin which is sold in this country as "French" embroidery is made by the poor peasants of Ireland, who are able to earn at it about sixty-two and one-half to seventy-five cents a week—working twelve to fourteen hours a day.

Does Charring Timber Promote Durability?

THE general belief has long been that it does, and in accordance with this conviction the practice has been widely followed. But a contrary view of the subject is taken by *Wood and Iron*. That journal says in a recent issue: "As charcoal would endure for ages in places where timber would decay speedily, the practice of charring the surface of fence posts and other timber has been repeatedly recommended in books and ephemeral publications, as eminently worthy of universal adoption.

"The theory upon which such a recommendation is based would seem to warrant a confident expectation of satisfactory results in practice; but repeated experiments with charred timber have furnished conclusive assurance that the process will not promote its durability. Indeed, numerous experiments have shown that charring promotes premature decay. Two posts split from the same log may be set side by side in the ground, the surface of one being charred and the other not; and it will be seen that the charred post will perish before the other.

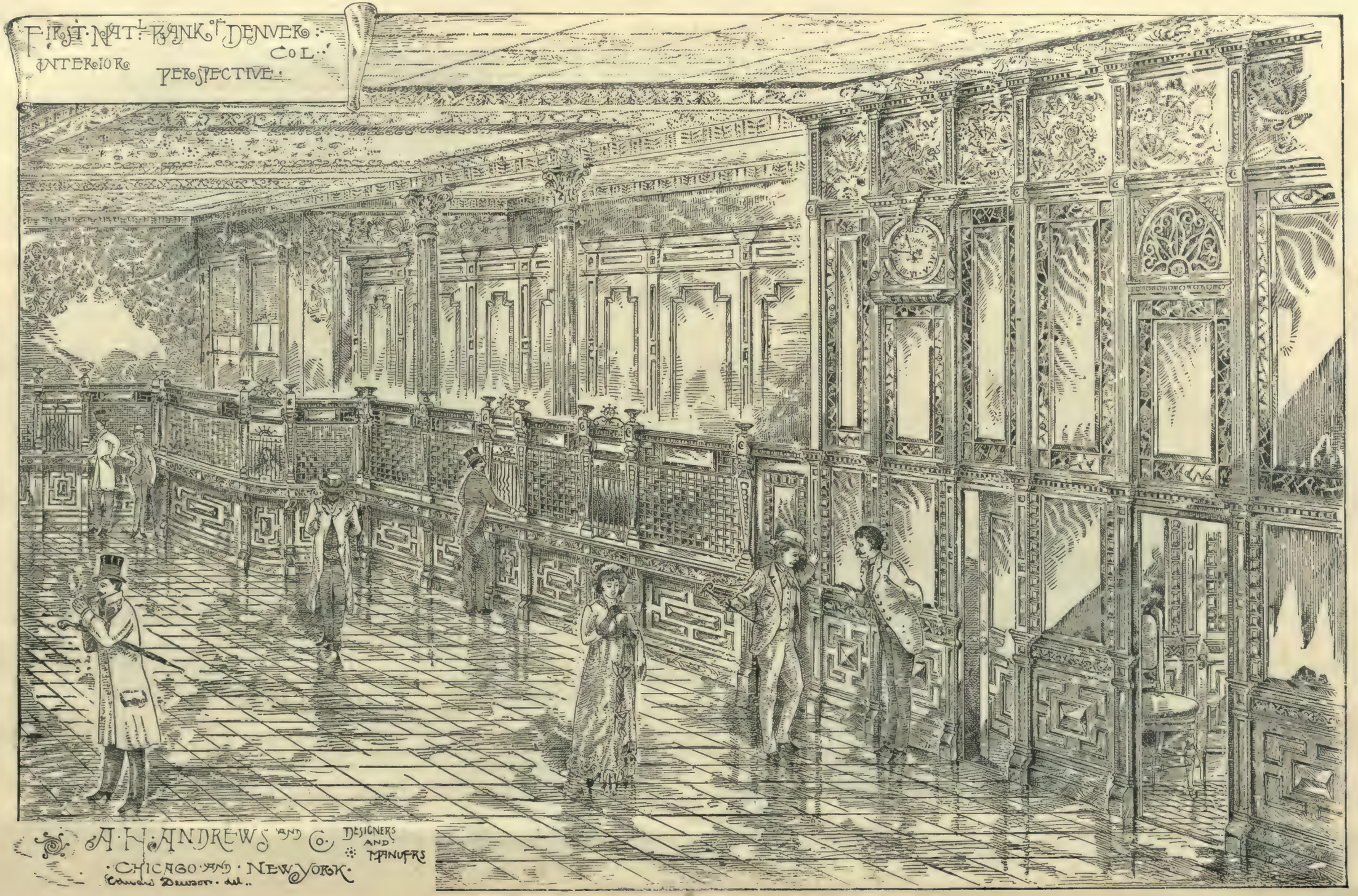
"The same is true of railroad ties, and all such timber as may be exposed to the altering influences of wet and heat. Could the entire timber be changed from its perishable condition to one solid piece of charcoal, the durability would be promoted to a surprising length of time; but the strength of the material would be destroyed. When fence posts or other sticks of timber are exposed to the rapid action of wet and heat, the surface will decay first. One might suppose, therefore, that when timber is enveloped by a layer of charcoal, the durability of the entire piece would be greatly promoted. And such would be the case were it not for the fact that the charcoal is not impervious to water; and as water reaches the timber below the charred surface, decay will commence soon after the grain of the wood has been exposed to the influences of the weather. When the change has once begun beneath the charred surface, the durable covering of coal will be of no service whatever in preserving any portion of the wood. Taking this practical view of the subject, it will be perceived that if only half an inch of the outside of a post be charred, the post will not endure so long as if the same thickness of wood has been left uncharred, to waste away by slow decay."

TWO OF the largest castings in the world are to be seen at Nara and Kamakura, Japan, the one at the latter place being 47 feet high, and the other, at Nara, being 53½ feet from the base to the crown of its head. The statue at Nara is supposed to have been erected in the eighth century, but it was destroyed and recast about 700 years since. In endeavoring to recast it several mishaps occurred, and when at last success came, some few thousand tons of charcoal had been used. The casting, which is an alloy of iron, gold, tin, and copper, is estimated to weigh 450 tons.

A SOUTHERN writer furnishes this bit of history. The first doors of St. Peter's Church at Rome were made of cypress. They gave way to the bronze doors after being in use 100 years, and are as sound as when placed in the building. The boxes in which mummies are found are made of this imperishable wood.

ALL the cannon foundries of Europe are overrun with orders and working day and night. While they make guns abroad, we make plows and work to raise the food that must support the luxury of war.

Notice Our Holiday Offer on Page 161.


FIRST NAT'L BANK OF DENVER COL.
INTERIOR PERSPECTIVE.
A. H. ANDREWS AND CO. DESIGNERS AND MANUFRS
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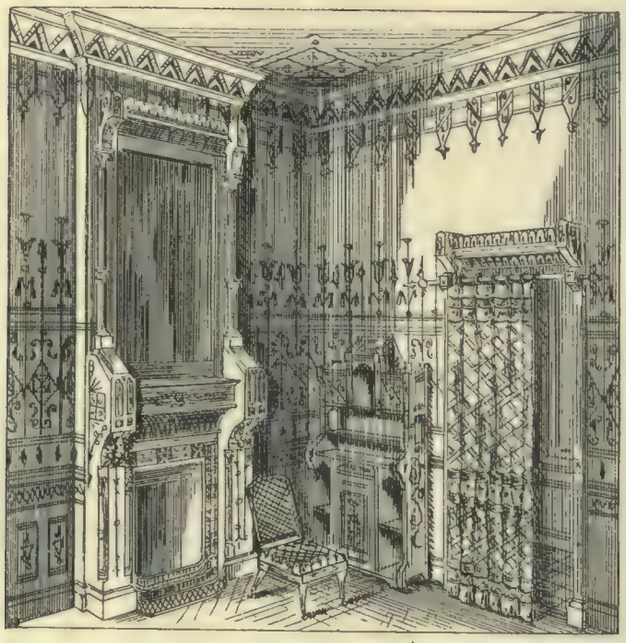
ART AND ARCHITECTURE.

[Special for this Journal. By F. Hillebr, Architect and Mechanical Engineer.]



XXXIV. GRADES OF DEVELOPMENT IN ART.

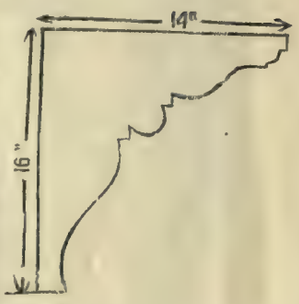
THE figure three has evidently a privileged signification in all relation of men and of nature. Was to be and to pass away. Beginning, middle, and end designate simple forms of those relations whose changes, expansions, and exaggerations are easy, as if self-evident seen, so that here only may be remembered, that in the religions of nations being more capable of civilization, or of people more advanced, Trinity appears on the main in Lens, Poscidon, and Hades in the India; Trinity in Brahma, Siva, and Vishnu, up to the undivided Trinity of the Christian church. This third partition is also, in the development of the arts, of the largest signification, and her close observation makes amazingly more easy the comprehension of the works of art. Germinate, green, and fade are here also the three kinds of appearances, which show themselves and are recognized as the front step, the flourishing and the declining decaying.

XXXV. FRONT STEP.

By the observation of the spirit of a work of art was the sense, purport, and the form of the same drawn in closer perception, and regard, and set up, the perfect harmony of both leading to the highest beauty. But before man arrived to the same with his work, generations must toil and trouble hundreds and thousands of years to prepare the means for him, that he can find a truly worthy sense and purport, to possess a full comprehension of form, and to overcome all hindrances and obstacles successfully in forming the same.

In the petty insignificant beginnings of art the crude predominated first, and the struggle with the resisting material and with his own unskillfulness. And even then the human heart just then desired at this grade of culture a visible representation of the most difficult, "divinity" Already many times it has been stated before, that such a desire leads to symbolizing; that is, to a kind of representation, by which something not lying directly in the form should be indicated by the same or certain other signs. She is called the symbolic grade, or, also, since she always desired to bring up a divine holy spirit, the hieratic symbolic grade. She embraces the art of all barbarous people, those of the Greek to Peadias and his time, and of the Christian nations up to Raphael and his time. She also embraces a great and powerful time and an unmeasurable treasure of works of art and monuments.

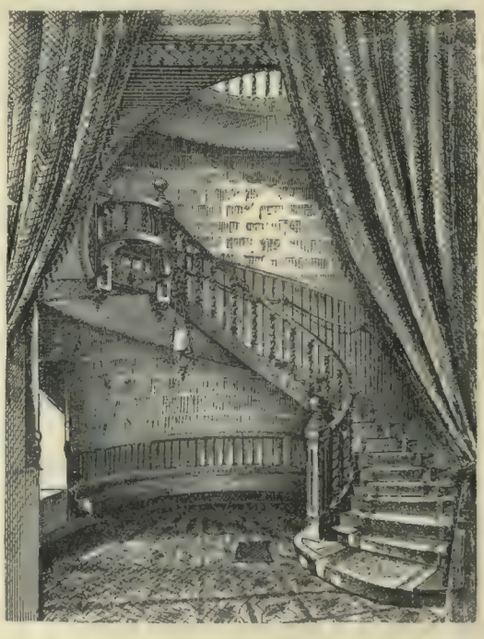
The only particular characteristic of all works of this fore grade is, that the spirit overreached the form; that is, that the technical means for its representations were insufficient, and, therefore, partly, as if it were, had to be guessed at. The master of such works thought deeper and felt keener, as he was able to express, finding the only fitting form insufficient, there remained some of that, which he intended to put in his work, back, which could not be brought direct to view and appearance, but anyway so that it was not altogether without an indication.



If in the fore grade of art of a people sets in a standstill of a long duration in the general development, then the imperfect forms gradually lose their original symbolic expression, and they transmit themselves from generation to generation as unchangeable types, so that its duration and stability by custom, agreement, and conventionalism become unimpeachable. She herself became external, conventional, rigid, and deadening. Large periods of barbaric people, as the Egyptians, Assyrians, Indians, the last hundreds of years of the Byzantines, have such conventionality, which originally was symbolic art. But if there is no standstill, but a lively progressive development, as in the art of the middle ages of the Western Christianity, then the symbolic works gain a special esthetic force. Then the one who is capable of penetrating and comprehending the defective and less perfect forms, will learn to listen and watch for that which the master could not express. Such works impart the attractions, charm, and the honest industry, the true love, the originality of thought, and the intensity of feeling richly reward the trouble which must be expended to solve the difficulty of her form. The first manly efforts which they attest are exceedingly interesting, even if the first crude beginnings are darkly veiled and hid, as the helpful ways of a child with its thousand slumbering germs for development, which gradually plainer and clearly come out. But not only the conscious effort alone recompenses for the fault in the perfection of the form. It is the impartiality and naturality, the amiable modesty, and the fresh boldness, which draw and lead us again with love to the works of a young and rejuvenated humanity. Even the works of barbaric nations, which fall and show the grotesque and distorted, are tokens of remembrance estimable and venerable, of the strife and struggle of young original generations, when even if the work itself does not give us pleasure and satisfaction.

XXXVI. FLOURISHING PERIOD.

When man at last has succeeded to obtain the full cleverness and security in the making of forms, and has learned to comprehend that he only can make objects which he understands, but not supernaturally divine, but naturally human things, then is the time not far off for the real flo rishing period. Then such cleverness and understanding are for once the closing end of a long time of preparation, and secondly, are they the signs of the



height of a general historical culture, a striving after knowledge, a craving after liberty, and those conditions are the times of birth of great artistic genius. In full equilibrium and noble harmony set itself in the works of the same, the spiritual and the bodily. Meaning and form correspond perfectly to each

other, and a pure beauty displays itself before the amazed eyes of our own time and the admiring posterity. Here is nothing symbolic, nothing which lived in the soul of the artist was perceived, and did not obtain expression, and was made visible. In no line, in no motion, is something which has not directly a spiritual signification and expression. Nowhere is a too much or a too little; everywhere is complete conformity with which the spiritual lives in the appearance, and the form finds its signification and meaning.

As in the highest sense only one beauty exists, we would probably conclude that the highest works of art could only be of one kind. This is not so, since we have not to deal with absolute beauty, but only with beauty, made and produced by men, by defective men with infirmities and passions, which is frequently conditioned, not only by the material used for the work of art, but also by the influence of the time of creating, as has already been mentioned, but also by other conditions, to which the perception and the manner of the technical execution chiefly belongs. The conditions of the beautiful are, however, by no means to be taken as one-sided, or to be so comprehended, that a Madonna by Durr could be reproduced in a Raphaelic manner of drawing. They act rather uniformly and jointly and together on the spiritual and the formal, so that the master could not take the idea otherwise than with the full consideration of the former. In a work of art is the intimate belonging together, the unconditioned inseparability, so that nothing in the form can be changed without altering the idea and to the same nothing added or taken therefrom without altering and transforming of the form.

The duration of such an art period will depend, if the same is solely founded on single individuality, or if the same is directly upheld and carried by the whole people. In the former instance, and if the single individualities are, in the fullest measure, children of their time, she will die with the individuals, as it happened in Italy; but, in the latter case, she can last hundreds of years, even if for once she shines brighter; at other times in the shadow of troubled events is dangerously threatened, as the Greek art shows us a bright example.

IN a late number of the *Gazette des Architectes* is an interesting account of a controversy between the Paris Omnibus Company and a M. Ezebeck, whose premises at Auteuil adjoin a stable belonging to the omnibus company. In order to economize in the cost of the ground, which is very high in this locality, the company has arranged its stable in two stories, and has stalled a portion of its 580 horses on what we would call the second floor, on a level with the sleeping-rooms in M. Ezebeck's tenements adjacent. On this reverberating floor, and the inclined plane by which the horses ascend and descend at all hours of the day and night, their heavy tramping creates an intolerable and never-ceasing jar and turmoil which so greatly disturb M. Ezebeck's tenants, that some of them have entered suit against him for pecuniary damages, and others threaten various methods of obtaining redress, while those who are not constrained by leaseholds have moved out. All this damage, he claims, is owing to the proximity of the stable, and for several years past he has been endeavoring to compel the omnibus company to modify its stable in such a way as to abate the nuisance. To this the company has already consented, and on the advice of an expert, it constructed an additional wall between its stable and M. Ezebeck's premises at an expense of 50,000 francs, which it was hoped would abate the annoyance. Unfortunately, this wall entirely failed of its purpose, and M. Ezebeck has applied to another expert, Architect M. Gelis Didot, whose report is printed in full by the *Gazette*.

M. Didot's explanation of the failure of the wall already built to interrupt the transmission of noise and jar from the stable to the tenements, and his advice as to the proper remedy, are interesting and suggestive, while his communication is such a model of clearness and conciseness that we regret our inability to print it entire. Briefly resuming, he ascribes the failure of this intercepting wall chiefly to the fact that it stands upon the same footing as the original stable wall, and that through this footing all jar and vibration produced in the stable wall are transmitted practically undiminished to the new wall and thence to M. Ezebeck's premises. The new wall is thus practically one with the old one as to the noise and shock complained of. He also finds the distance of this new wall from the old one, namely, ten centimeters, altogether too slight. M. Didot recommends that a new wall be constructed at a distance of two to five meters from the stable wall; that the new wall have a footing entirely separate from the stable footings; that it be sunk to a greater depth, and that the space between the walls be left open or filled with some non-conducting substance. He also suggests that the inclined ascend to the second floor might be removed to some part of the stable more remote from the tenements, and also that the horses be stalled in some other portion. Incidentally he mentions the precautions imposed on other noisy occupations, as that of gold-beating, printing, and numerous manufactures. Sometimes their machinery rests upon special foundations, built up from the ground wholly independent of the building itself, or upon columns rising from special foundations, or on rubber cushions. We may add that sand boxes are sometimes used for a like purpose. M. Didot's comparison between the stable and a gold-beater's shop is vivid and impressive. He says the former establishments, at the most, seldom have more than twenty hammers in operation, while in the stable, even if there are but eighty horses present at a time, the noise from their iron-shod hoofs on the reverberating floor would be equivalent to that of 320 gold-beaters' mallets, or sixteen times the noise from one gold-beating shop.

The Strongest Brick Walling.

A BRICK of average quality requires a pressure of from 600 to 2,000 pounds and upwards per square inch to crush it, the figures varying in different descriptions of bricks, and being as high as 4,395 pounds in hard-burnt facing bricks. Brick walls and brick piers, if properly built, will bear very heavy weights, as will be seen from these figures. The strength of a wall is not dependent, however, upon the strength of its brick alone, but upon three distinct conditions: (1) the manner in which the bricks are arranged; (2) the strength of the mortar, and (3) the strength of the bricks. Each condition is of considerable moment, and, considering that brick-work is rarely weighed with a load even approaching one tithe of the crushing weight, it is obvious that the first and second conditions are of the greatest importance.

The object of mortar in a wall is simply to form an adhesive material between the bricks of which the wall is composed. It has no function beyond that. Good mortar is certainly not so strong as good brick, and the mortar joints should, therefore, be kept as thin as is consistent with the perfect adhesion of the bricks. The current custom of making thick mortar joints has the effect of considerably weakening the brick-work, and should be discouraged.

One of the strongest forms of bonding in brick walls, is that known as "English bond," in which the bricks are arranged in alternate courses of headers and stretchers. The small amount of cutting required, the avoidance of two vertical joints over one another, and the large number of headers in the wall render it very strong and suitable for heavy work; in fact, English bond, if properly carried out, conforms very nearly indeed, to all the requirements of good bonding.

In thick walls of heavy buildings, such as warehouses and structures of the same class, the strength of the bond may be improved, to some extent, by arranging every fourth course of bricks diagonally, forming what is sometimes termed "diagonal bond." The advantage is that a lap of four, instead of two inches, is obtained. The elevation of this bond is the same as that of ordinary English bond. The header courses are the ordinary header courses of English bond, arranged alternately with stretcher and diagonal courses. The diagonal courses are arranged alternately in opposite directions. One disadvantage of this arrangement of the bricks at an angle, is the fact of its leaving small triangular spaces on each side, which tend, to some extent, to weaken the wall. These spaces should, however, be carefully filled in with pieces of brick, and not be allowed to be left simply filled in with mortar.

THE output of a Swiss watchmaker is 40 watches a year; of a United States mechanic, 150; and the American earns in his skilled line of labor three times as much as his Swiss competitor.

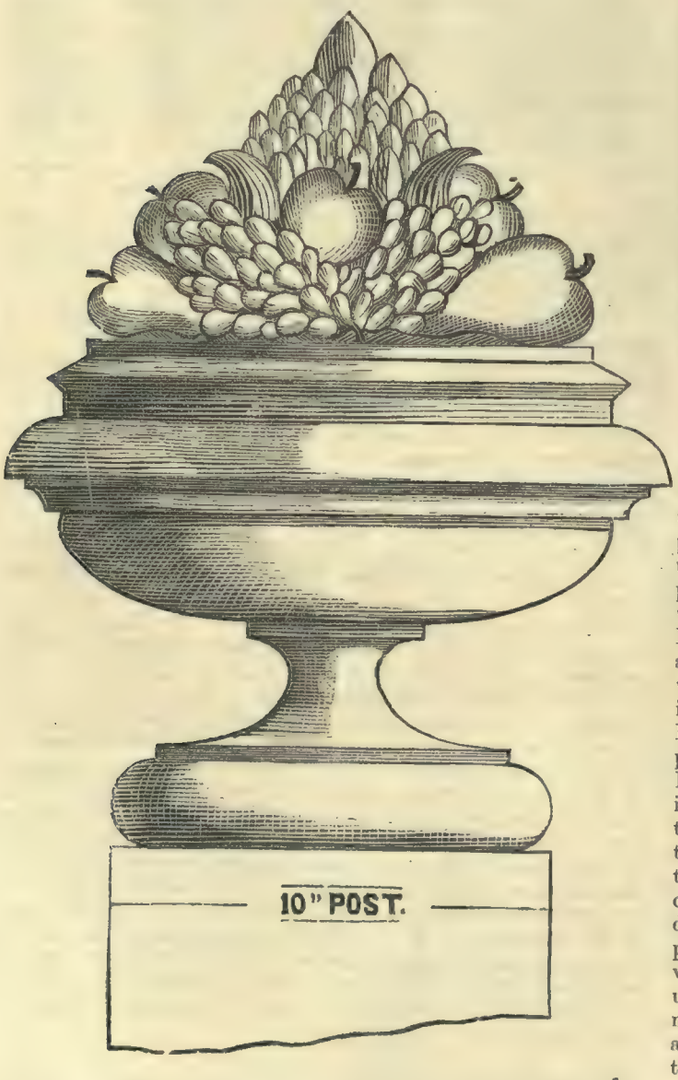
TAKE any saw running constantly in one direction, and after having made 10,000,000 revolutions, examine its particles at a newly broken surface with a microscope, and it will be found that every molecule of iron composing that saw has been displaced.

THE total cost of the Riel Rebellion in the Northwest Territory was $4,700,000 and the casualties 26 killed and 206 wounded.

The Carpet Beetle.

THE rapid increase of these insects, and the great destruction of carpets and woolen clothes which they occasion, make it of importance that every housewife be informed as to their history, appearance, and the remedies for preventing and getting rid of the pests. The Zoological Department of the Agricultural College of Michigan has recently issued a very complete bulletin concerning these insects, from which we quote the following paragraphs:—

"The carpet beetle belongs to the family *Dermestidæ*, and is closely related to *Dermestes lardarius*, the bacon beetle, which thrives upon dried insects and other museum specimens, as well as most kinds of animal tissue. It is a minute but handsome beetle only one-eighth of an inch long, and about two-thirds as broad as long. The main color is black, while a dorsal red line extends longitudinally, bordering each wing-cover internally, and is marked by three projections on each wing-cover. Opposite these red projections on the outside of each wing-cover are three white spots. This handsome little pest will be found in concealed places from October till the following spring. As the beetle does not eat, no harm will be done by the insect while in this stage, except as in egg-laying it prepares for future mischief.



"The larva—the real mischief maker—is about one-half longer than the beetle. It is ringed with light and darker brown bands, and the body is margined with tufts of brown hairs. These are very long at the ends of the body, and at the front obscure the head. Similar shorter hair clothes the whole body. The ringed and hairy character makes it easy to identify this larva.

"When the larva is fully developed, usually late in July and August, it seeks some concealed place, as the crevice between the boards of the floor, where it changes to a pupa. Sometime before the full change to the pupa is made, the larva skin breaks open. These pupæ, which will be seen from July to October, and even later, are quiet, and so of course do no damage while in this state.

"We see, then, that the injury from the carpet beetle comes through the larvæ, and is most marked in June, July, and August, when the larvæ are most numerous and abundant. The fact, however, that beetles are emerging from the pupa state from October till the following spring, together with the artificial conditions of heated rooms, will undoubtedly, as has been the case with the clothes and carpet moths, vary their habits in this respect, so that very likely in our rooms that are always kept warm, development may be hastened and the insect may become even double brooded, so that quite possibly we may find the larvæ feeding at all seasons.

"The fact of the rapid increase of these insects, and the terrible destructiveness which attends an onslaught by them, make it imperative that we find a remedy for this evil, or else abandon the luxury of carpets, not to speak of woolen garments. Cases are known where the insects have taken entire possession of houses from basement to garret, in a year or two's absence of the owner, and have destroyed or seriously injured all woolen belongings, even to the picture cords. Its small size, fearful destructiveness, and its power to resist insecticides make it a terrible pest; and wisdom urges that all learn to detect it so as to stamp it out upon its first arrival.

"Experience shows that it first attacks carpets, and there is where we may look for an assault. Like the well-known carpet moth, *Tinea tapetzella*, it works first and most at the borders of the carpet.

"I should recommend the ironing of wet cloths placed over the affected part of the carpet, using flat-irons that are very hot. The cloths may be two or three thicknesses of common toweling, wrung out of water just so they will not drip, then iron till dry. To secure the best results, one ought to have a dozen or more of irons. I have found that this, thoroughly done, is most deadly to the carpet moth larvæ, and surely the intensely heated steam penetrating every fiber of the carpet, and to every crevice of the floor, must sound the knell of every larval carpet beetle that feels its deadly presence. I have tried this on delicately tinted carpets, and while it was delightfully efficient in destroying insects, it did no injury whatever to the carpet. The only caution here, then, is to make thorough work; *be sure of a full head of steam!*"

THE privy vault, which for the most part cannot be dispensed with in localities which are not sewered, and have no regular water supply, is commanding considerable attention just now when sanitary surroundings are so much sought after. Various theories as to the best mode of construction are being advanced, proper regard being had for the safety of wells contiguous thereto, so as to guard against their pollution, and while each plan suggested from time to time may have its merits, it is worth while to consider one which was offered at the late Master Plumbers' National Convention, and which, from its simplicity and cleanliness, must commend itself to general approval. It was in treating the subject of "The Danger of the Privy Vault," in an essay prepared by a member of the Baltimore Master Plumbers' Association, that the best substitute for the common privy came up for consideration, when the following was offered: Instead of making under the privy seat, in country places, for instance, the usual excavation, the essayist recommends that there should be a strong, galvanized iron box made to fit under the seat into which everything could fall. The back or sides of the privy house should be so constructed that when full the box could be drawn out and emptied. Before being put in position, dry earth or ashes to the depth of about four inches should be placed in the bottom, and in the privy there should be a box, with either ashes or earth, a little to be sprinkled over the box, under the seat, whenever used. One effect of such an arrangement would be that the contents of the box would serve as a fertilizer, while the main object, that of keeping the air and the soil free from pollution, would be fully secured.

IN Ireland the total number of land-holders is 68,716, and of these 36,141 own less than one acre of ground.

Please Make Immediate Settlement.

As an entire change in the management of this Journal is likely to occur at an early day, those who are indebted to us will greatly oblige

BY MAKING PROMPT PAYMENT.

Do not hold off because you may for a time, but pay up at once and remove the obligation. It is our due and your duty.

Market Reports.

CORRECTED FOR NOVEMBER, 1886.

Pine, Rough	per M feet,	$15 00
" " No. 2	" "	12 00
" " " 2 in lengths	" "	13 00
" " 40 to 50 feet lengths	" "	17 00
" " 50 " 60 " "	" "	18 00
" " Selected	" "	20 00
" " Clear	" "	25 00
" " Firewood	" "	8 00
T. & G. Flooring, 1 x 6	" "	27 00
" " 1¼ x 6, 1 x 4, 1¼ x 4, 1¼ x 3, 1 x 3, and narrower	" "	30 00
" " No. 2	" "	22 00
Stepping	" "	35 00
" No. 2	" "	27 50
Furring, 1 x 2	per lineal foot,	00¾
Redwood, Rough	" M feet,	18 00
" " No. 2	" "	14 00
" Surfaced	" "	30 00
" T. & G. 6 in 12 ft. and over	" "	28 00
" " 6 in. 7 to 11 feet	" "	25 00
" " 6 in. under 7 feet	" "	20 00
" Rustic	" "	30 00
" " No. 2	" "	26 00
Redwood, T. & G. Beaded, 12 ft. and over	" "	30 00
" " " 7 to 11 ft	" "	25 00
" " " under 7 ft	" "	20 00
" Siding, ½ inch	" "	22 50
Pickets, Fancy	per M,	25 00
" Rough Pointed	"	16 00
" " Square	"	14 00
Battens, ½x3	per lineal foot,	00¾
Shingles	per M,	2 00
Laths, 1½	"	3 25
" 1½	"	3 75
NAILS—Rates were recently reduced to:—		
200 keg lots		2 50
100 "		2 60
Smaller quantities		2 70
PAINTS AND OILS:—		
Pioneer and Nevada White Lead, 1,000-lb. lots		6¾
" " " " " less quantities		7
" White Lead (local factory), 5-ton lots		6½
Cal. Linseed Oil, raw (single bbl. lots)		45
" " " boiled " " "		47½
Turpentine, per gallon		47
BRICK—California Building Description, soft, per 1,000		6 00
" " " red, " "		7 00
" " " hard " "		7 75

Master Plumbers' Association.

Howard Building, S. W. Cor. Stockton & O'Farrell Sts., S. F., Cal.

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DOWNES, CHAS.	41 Second Street
DUFFY BROS.	17 Trinity Street
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WILSON, WM. F.	25 Stockton Street
WILLIAMSON, H.	329 Sutter Street

In our December issue we will publish complete a list of those who are in arrears for subscriptions to this journal. Avoid publicity by sending us the amount of your indebtedness immediately.

A BRIEF but forcible sermon is preached by the *Builder and Woodworker*, of New York, on the morality of home decoration. It argues that every improvement in the house is an improvement in morality. The efforts to acquire, to maintain, and to improve it are a daily, life-long schooling in morality. And in the train of these virtues, and akin to them, comes the sense of the beautiful. The house, the home, is one's own, is as potent as it is simple and unfailing in working these humanizing effects. We see evidences of this in what remains to us of the domestic architecture of the Middle Ages. Men then bestowed much thought on the designing and decoration of their houses, because they were their own.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

A

Ash Ave., bet. Laguna and Buchanan. Additions and alterations.
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C.—N. B. Ritchie.
$1,800.

B

Bush, bet. Laguna and Buchanan. Additions.
O.—H. Maginnis.
Day work.
$800.

Bryant, bet. Second and Third. Two two-story frames.
O.—Chas. H. Castle.
A.—Chas. I. Havens.
C.—R. Doyle & Son.
$7,500.

Boardman Place, bet. Bryant and Brannan. Two one-story frames.
O.—J. J. Mahoney.
A.—J. J. Clark.
C.—J. Wilcox.
$2,000.

Berry, bet. Fifth and Sixth. Ice House.
O.—Boca Brewing Co.
A.—John & Zimmermann.
Day work.
$1,000.

C

Clementina, bet. Eighth and Ninth. Repairs.
O.—Thos. McGorey.
A.—M. J. Welsh.
C.—R. Sennott.
$700.

E

Eighteenth, cor. Church. Two-story frame.
O.—A. Simon.
A.— — Darwin.
C.—Dutton & Kennedy.
$2,600.

Eighteenth, near Church. Two-story frame.
O.—
C.—A. B. Tarr.
$2,500.

Eddy, bet. Devisadero and Broderick. One-story frame.
O.—W. McLaughlin.
C.—R. O. Chandler.
$2,000.

F

Filbert, near Montgomery Ave. Two-story frame.
O.—J. Trueworthy.
C.—A. H. Taylor.
$3,500.

Fell, bet. Laguna and Buchanan. Two-story frame.
O.—Patrick Parrell.
A.—A. Warren.
C.—M. Murry.
Brick work, J. McCann.
$4,500.

Fifteenth, cor. Guerrero. Two-story frame.
O.—Jos. Buettgenbach.
A.—John & Zimmermann.
C.—Theo. Van Borstell.
$6,500.

G

Guerrero, bet. Twenty-second and Twenty-third. One story cottage.
O.—John Bell.
C.—Geo. Houston.
$2,000.

H

Howard, bet. Twenty-first and Twenty-second. Repairs.
O.— — Jordan.
A.—M. J. Welsh.
C.—M. Walsh.
$600.

Hayes, near Buchanan. Three two-story frames.
O.—R. H. Swain.
Day work.
$10,500.

Hayes, cor. Webster. Additions.
O.—Capt. O'Christenson.
A.—David Salfield.
C.—A. Klahn.
$500.

Harrison, bet. Thirteenth and Fourteenth. Alterations.
O.—P. Leddy.
A.—J. J. Clark.
C.—J. Madden.
$1,300.

J

Jackson, near Larkin. Two-story frame.
O.—Mrs. E. Lore.
A.—Townsend & Wyneken.
C.—Arnold & Dyer.
$4,500.

K

Kentucky, near Sierra. Two-story frame.
O.—John Gurtz & H. Voss.
A.—David Salfield.
C.—B. Dryer.
$2,500.

L

Larkin, cor. Filbert. Six two-story frames.
O. and B.—J. A. Whalen.
Day work.
$21,000.

Lombard, bet. Jones and Leavenworth. Three two-story frames.
O.—Mr. and Mrs. Jacques.
A. and B.—A. W. Pattiani & Co.
$12,000.

Leavenworth, near Clay. Alterations and additions.
O.—R. Magee.
A.—H. D. Mitchell.
Day work.
$3,000.

Linden Avenue, bet. Octavia and Laguna. Additions.
O.—S. Borker.
C.—Jos. Dutton.
$2,500.

Lyon, cor. Post. Two-story frame.
O.—E. Cassiday.
A.—M. J. Welsh.
C.—A. J. Smith.
$2,500.

M

McAllister, cor. Lyon. Two-story frame.
O.—John Grace.
A.—T. J. Welsh.
C.—Jas. Irwin.
$6,000.

McAllister, bet. Buchanan and Webster. Three three-story frames.
O.—J. H. Backus.
A.—John M. Curtiss.
C.—J. W. Wessinger.
$13,000.

Market, cor. Annie. Alterations.
O.—Mrs. M. C. Bishop.
A.—Percy & Hamilton.
C.—J. G. Day.
$7,500.

Market, bet. Third and Fourth. Five-story brick.
O.—H. H. Bancroft.
A.—Clinton Day.
Brick work—John McCarthy, $27,000
Total cost, about $90,000

McAllister, near Franklin. Three-story frame.
O.—John R. Morton.
A.—Huerne & Everett.
C.—F. Buckley.
$5,000.

Market, cor Tenth. Three-story frame.
O.—Inventors' Institute of California.
A.—John Gash.
Total cost, about $35,000

Mission, near Hermann. Two one-story frames.
O. and B.—J. Duneal.
Day work.
$1,800.

Mission, cor Potter. Additions.
O.—Mrs. M. Green.
Day work.
$1,200.

Mission, bet. Sixth and Seventh. Additions.
O.—Central M. E. Church.
A.—J. Marquis.
C.—Moore Bros.
$8,000.

Mt. St. Joseph, South San Francisco. Orphan Asylum.
O.—Sisters of Charity.
A.—J. J. Clark.
C.—Mahoney Bros.
$10,000.

Minna, bet. Eighth and Ninth. Brick party wall.
O.—J. Andrews.
A.—John & Zimmermann.
C.—Jacob Beck.
$950.

N

Nebraska, cor. Alameda. Two-and-one-half-story frame.
O.—Lucy Bros.
A.—Townsend & Wyneken.
C.—N. C. Post.
$2,800.

O

Oak, bet. Pierce and Scott. One-story frame.
O.—B. Crocker.
C.—P. Laherty.
$1,500.

P

Page, cor. Fillmore. Three two-story frames.
O.—N. F. Fitzgerald.
A.—S. & J. C. Newsom.
C.—A. Sennott.
$10,000.

Page, bet. Pierce and Scott. One-and-one-half-story frame.
O.—L. E. Sawyer.
Day work.
$2,600.

Post, bet. Dupont and Stockton. Four-story brick.
O.—Z. V. Dodge.
A.—Miller & Armitage.
Brick, etc.—J. Wagner, $5,400
Carp'ter work etc.—J. G. Adams, 4,800
Plumbing—J. D. Welsh, 850
Painting—J. F. Lynch & Co., 500
Total cost, $12,000

Page, bet Pierce and Scott. One-story frame.
O.—G. P. O'Connell.
A.—Townsend & Wyneken.
C.—J. H. Lennon.
$1,400.

Pacific Avenue, near Buchanan. Two-story frame.
O.—Samuel Carson.
A.—Percy & Hamilton.
C.—Gray & Stover.
$5,500.

Pierce, bet Haight and Page. Two-story frame.
O.—Mrs. Luckey.
A.—J. Marquis.
C.—Martin & Maguire.
$4,000.

Pine, nr. Gough. Two and one-half-story frame.
O.—Mrs. M. Irwine.
A.—P. R. Schmidt.
C.—W. T. Commary.
$15,500.

Point Lobos, bet. Wood and Collins. One-story frame.
O.—J. Schrader.
A.—John & Zimmermann.
C.—A. Miller.
$1,750.

Pacific Ave., nr. Fillmore. Two-story frame.
O.—J. H. Langhorn.
A.—J. J. Clark.
C.—J. Adams.
$4,900.

S

Sanchez, bet. Twenty-ninth and Valley. Two-story frame.
O.—G. Boysen.
C.—J. G. Lowner.
$1,800.

Scott, bet. Eddy and O'Farrell. One-story frame.
O.—D. Collins.
C.—P. Jones.
$2,000.

Steiner, cor. Hermann. Additions.
O.—H. Iburg.
Day work.
$1,500.

Sutter, bet. Van Ness and Franklin. Alterations.
O.—Mrs. M. Zimmerman.
A.—P. R. Schmidt.
C.—H. Keenan.
Brick work—R. Mitchell.
$5,200.

Sanchez, nr. Market. One-story frame.
O.—
C.—P. Laherty.
$2,200.

Scott, bet. Jackson and Washington. One-story frame.
O.—F. D. Marsh.
A.—J. T. Kidd.
C.—O. White, $1,725
Plumbing—Williams, 260
Cost, about $2,000

T

Twenty-first, cor. Treat Avenue. One-story frame.
O.—
C.—Chris. Raetz.
$2,500.

Thirteenth, cor. Belcher. One-story frame.
O.—W. Turney.
A.—J. T. Kidd.
C.—M. Loftus.
$1,500.

Thirteenth, nr. Belcher. Two-story frame.
O.—A. Giovannini.
A.—Miller & Armitage.
C.—A. Krohn.
$2,500.

Townsend, cor. Rich. Three-story brick.
O.—Mrs. Mark Hopkins.
A.—A. G. Moore.
C. T. H. Day.
Brick work—E. R. Shain.
Cost, about $10,000

Tennessee, nr. Solano. Alterations.
O.—F. Lester.
C.—C. E. Dunshee.
$2,200.

Turk, nr. Scott. Additions
O.—A. Schropfer.
Day work.
$900.

Turk, nr. Scott. One-story frame. (In rear.)
O.—A. Schropfer.
Day work.
$1,000.

V

Vallejo, bet. Powell and Mason. Two story and basement frame.
O.—T. S. O'Connell.
A.—Miller & Armitage.
C.—S. T. Green.
$5,000.

W

Washington, cor. Octavia. Additional contract.
O.—Alex Boyd.
A.—Curlett & Cuthbertson.
Painting—J. H. Keefe.
$1,500.

MISCELLANEOUS.

San Jose—Sixth. One-story cottage. O., A. Bergen; A., Jacob Lenzen & Son; C., F. Davis; $1,545. Eighth. Two-story frame. O., Wm. Fruehling; A., Jacob Lenzen & Son; C., W. Boyles; $4,650. Santa Clara. Two-story frame. O., Jos. Feist; A., Jacob Lenzen & Son; C., G. N. Hensley; $3,150. Santa Clara. Two-story frame. O., Mrs. Bradley; A., Jacob Lenzen & Son; C., Chas. Curats; $2,650. First. Additions. O., O. A. Hale & Co.; A., Jacob Lenzen & Son; C., A. J. McIlvain; $3,500. Terrain, cor. Bassett. One-story brick. O., — Schnider; A., T. Lenzen; C., G. E. McDougall; cost, $5,000. East side Narrow Gauge Depot. One-story brick. O., C. McKirnan; A., T. Lenzen; day work; cost, $5,000.

Hollister—Two-story brick. (Masonic Hall.) O., D. K. Sanford; A., Jacob Lenzen & Son; C., Jacob Dorn; cost, $8,500.

Seattle, W. T.—One-and-one-half-story frame. O., N. Toklas; A., P. R. Schmidt; $5,000.

Saucelito—Two-story frame. O., T. M. Curtan; A., Chas. I. Havens; C., A. Beyer; $4,750.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

ENGLISH AND AMERICAN VENETIAN BLINDS (IMPROVED).

The only perfect Venetian Blind in the market. The Blinds can be seen at the Mechanics' Fair. Or for samples, prices, and further information, address as below.

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L. M. Fabry, cor. Hayes and Laguna; architects, Miller & Armitage. John MacKenzie, cor. Grove and Broderick; architect, H. D. Mitchel. H. F. Bruns, cor. Geary and Taylor; architect, John M. Curtis. R. B. Gray, cor. Pacific and Van Ness; architect, John Marquis. Albert Meyer, Twentieth nr. Valencia; architect, J. T. Kidd. J. C. Weir, Post nr. Scott; architect, J. C. Weir. Dr. J. Rosenstirn, cor. Sutter and Hyde; architects, Pissis & Moore. A. M. Starr, Washington nr. Fillmore; architects, S. & J. C. Newsom. J. H. McKay, cor. Washington and Steiner; architect, J. H. McKay. U. S. Government, Presidio Reservation; architect, J. H. Humphreys. Baron Von Schroder, 553 Harrison; architect, T. J. Welsh. G. G. Burnett, Larkin nr. Turk; architect, James E. Wolfe. A. F. Le Jeal, Clay bet. Franklin and Gough; architect, H. C. Macy. J. C. Weir, Post nr. Scott (second order); architect, J. C. Weir. P. Dupuy, Taylor nr. Turk; architect, W. H. Bayless. J. S. Morgan, Mission bet. Twenty-fifth and Twenty-sixth; architect, C. V. Pierce. N. W. Cole, Mission nr. Twenty-fifth; architects, S. & J. C. Newsom. John Ritchie, Woodland; architect, W. H. Carson. Court House, Petaluma; architects, S. & J. C. Newsom. L. H. Sweeney, San Rafael; architects, Pissis & Moore. Court House, Santa Rosa; architects, S. & J. C. Newsom. Raymond Hotel, Pasadena; architect, J. H. Littlefield.

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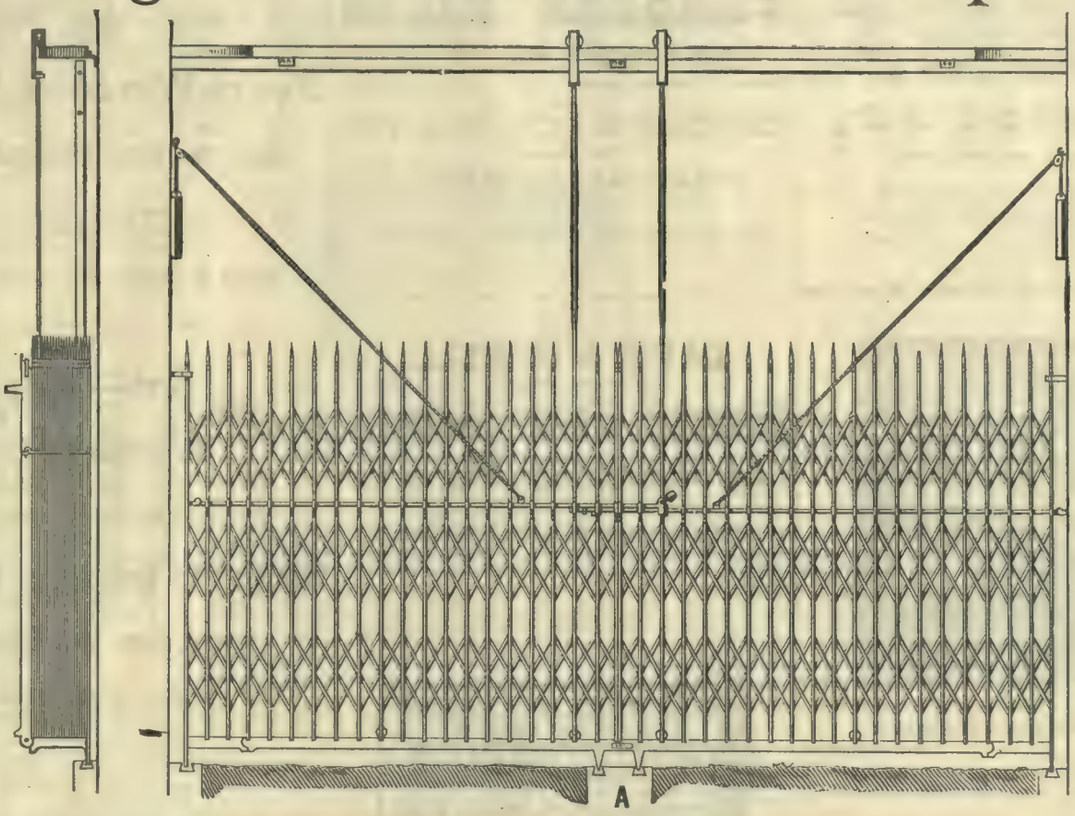
These Gates and Guards are manufactured to order in San Francisco, to fit and fill openings as desired. Descriptive Catalogues and Price List furnished.



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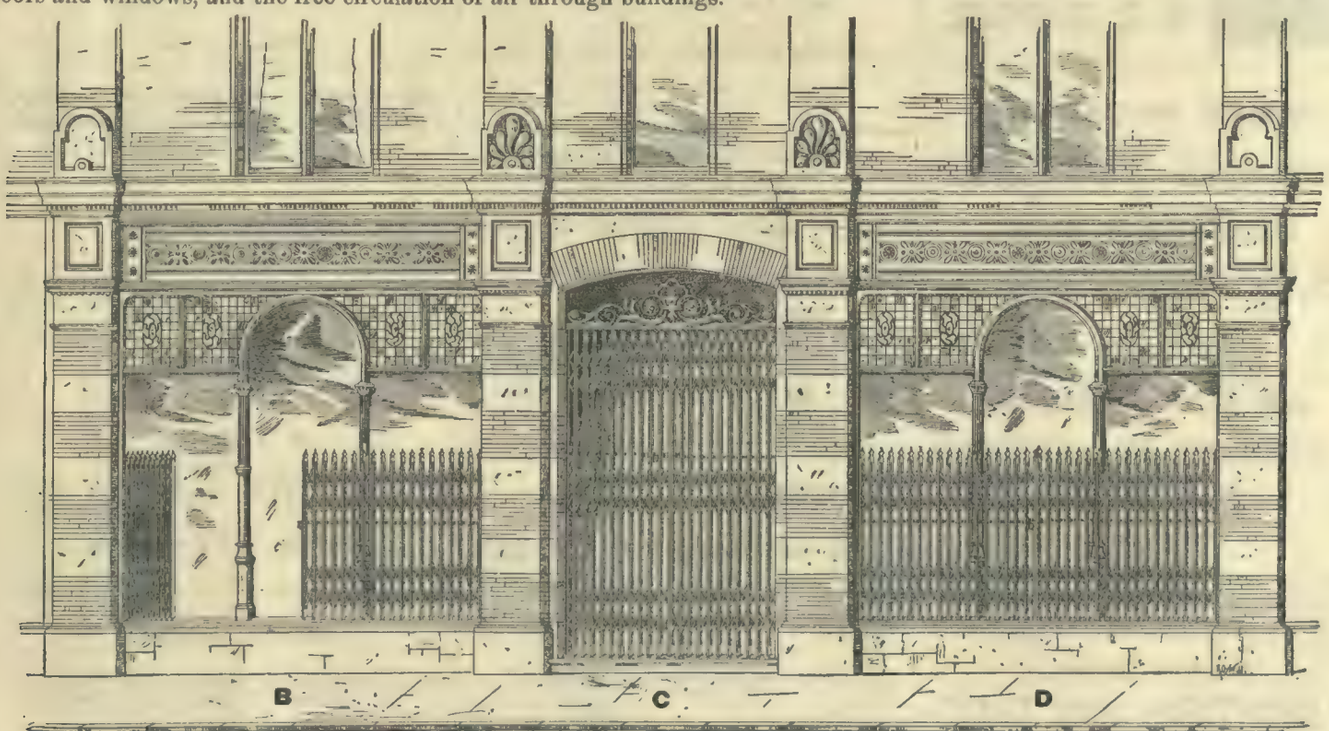
WITH ❋ THE ❋ IRON ❋ FOLDING ❋ GATES ❋ AND ❋ GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against **Burglars, Thieves, Tramps and Designing Persons,** and can be removed and replaced without unhinging. As a **Sanitary Device** they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.



DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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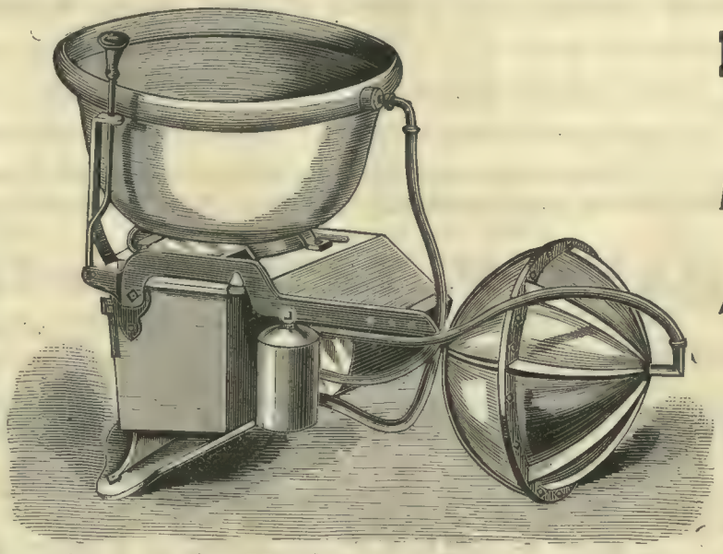
THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.



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Persons Engaged In Sanitary Enterprises,

ARCHITECTS, CONTRACTORS AND BUILDERS,

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Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns *every house* into a SANITARIUM, and is an assurance to those who trust it, that neither *sewer gas* nor *noxious vapors* that invade our houses freighted with *disease* and *death*, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! *It has no "overflow,"* rendering it a positive seal against *sewer gas* and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean bowl. It rinses the bowl before and after each and every operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.

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STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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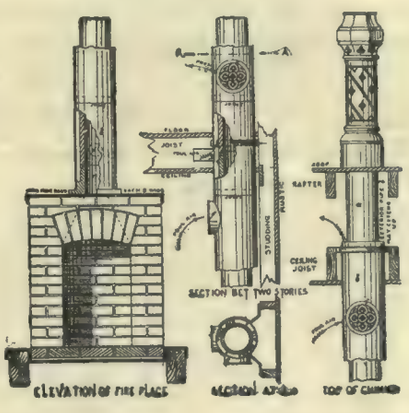

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

The lightest and safest patent chimney manufactured.

Approved by the Board of Supervisors.

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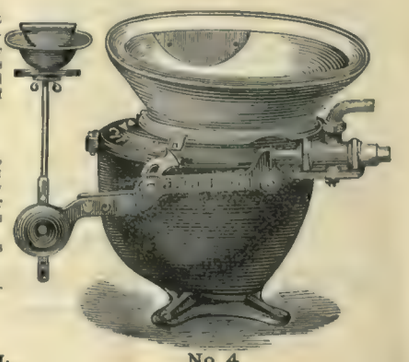

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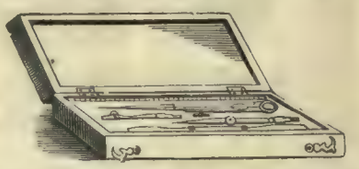

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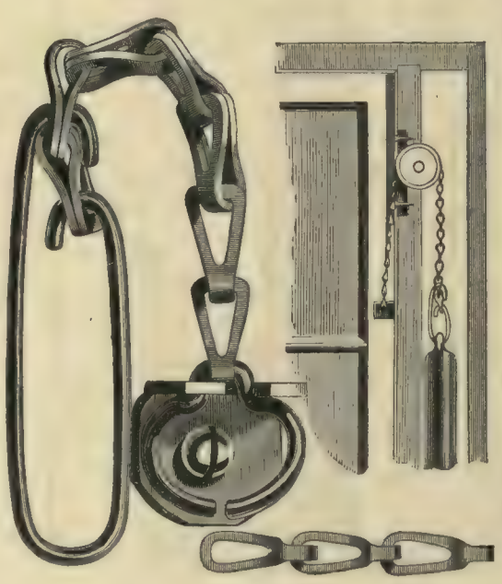

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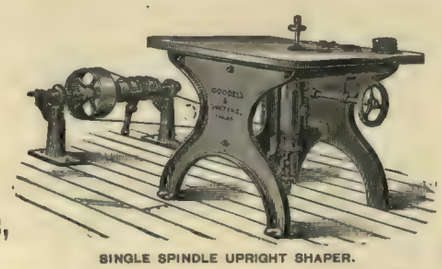

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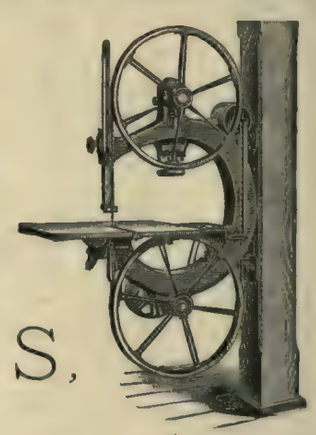

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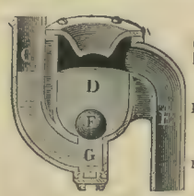
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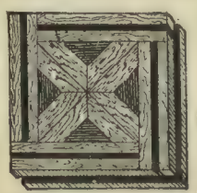
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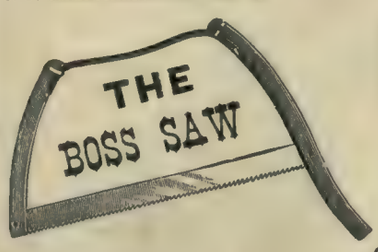

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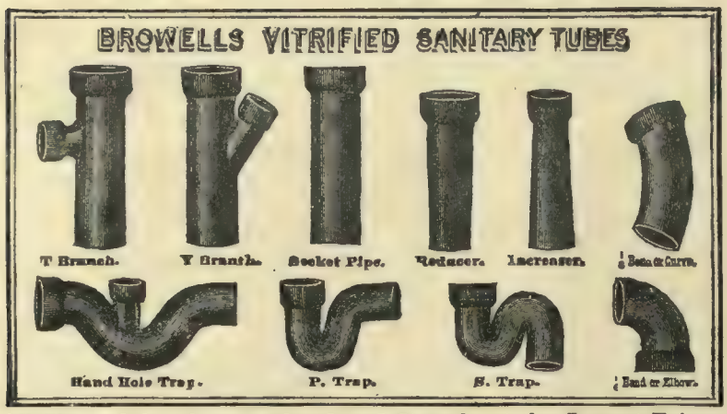

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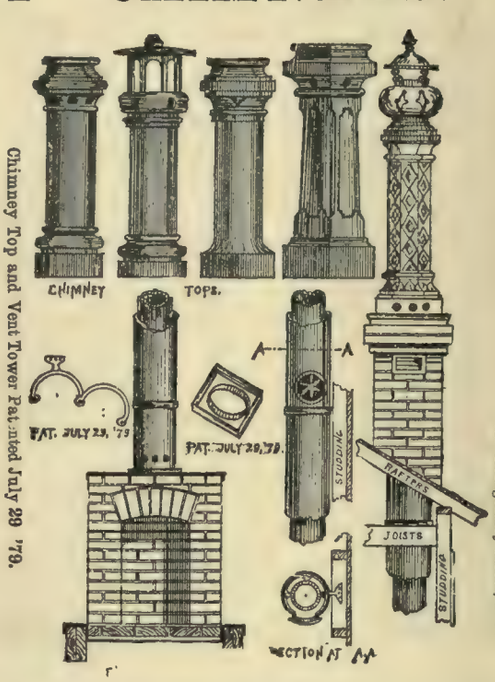

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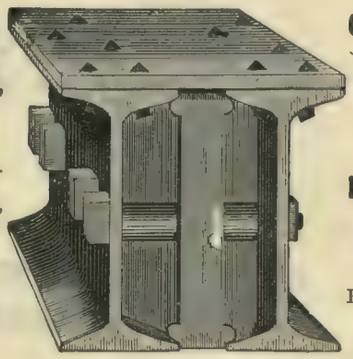

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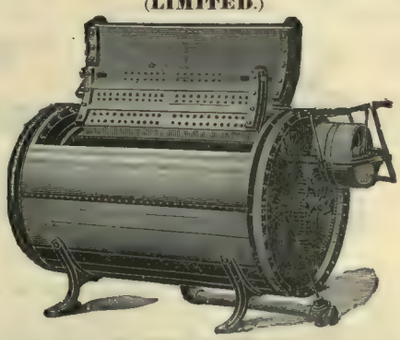

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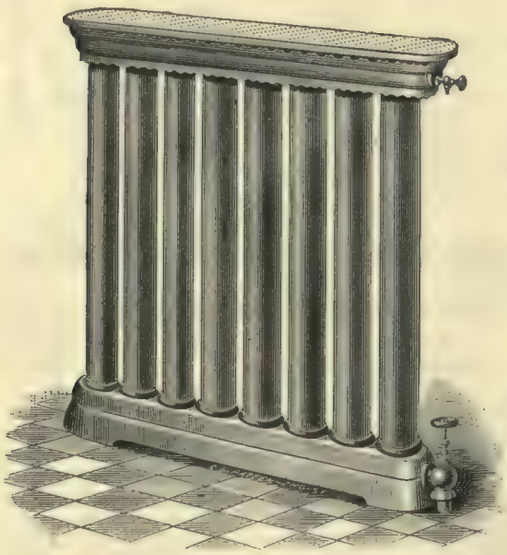

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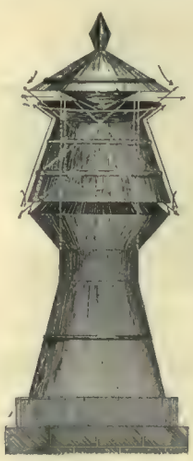

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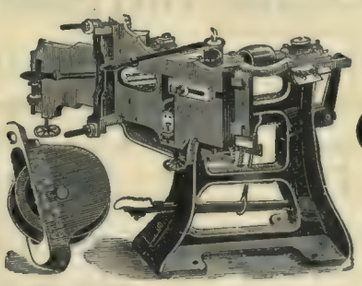

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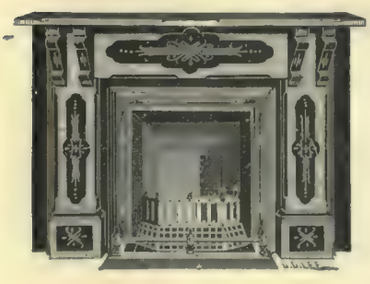

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Volume VIII — Number 1.

THE

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A MONTHLY JOURNAL,

Devoted to Architecture, Decorating, and Furnishing.

PRICE, $2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., JANUARY 15, 1887.

Our patrons are informed that C. L. Crabbe has no connection whatever with this Journal. He is not authorized to make any collections, or receive either subscriptions or advertisements.

Bound Volumes of the year 1886 are now ready. We will forward a copy to any address upon receipt of $2.50.

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Your SUBSCRIPTIONS for 1887

To those who so promptly responded to our request for immediate settlement of subscription and advertising balances,

WE SAY, THANK YOU.

To those against whose names remain unpaid balances, we say,

PLEASE PAY UP AT ONCE.

Remembering that—Defrauding an editor is considered one of the meanest kinds of peculation; that—"*Honest men are the gentlemen of nature;*" that—"The man who pauses in his honesty, lacks but little of the rogue;" that—A rogue in spirit is a rogue in gain."

Therefore,—Let every one who *receives* or *reads* this journal, forthwith forward to this office, its subscription price for 1887, and any and all unpaid indebtedness.

The Outlook for 1887.

It is promising. True, the natural tendencies of the human mind, hopes and desires, are to anticipate and prognosticate continuance of good things, and to grasp after every appearance or indication of better; and often, the mere "wish being father to the thought," induces prophesying and predictions which have no other foundation than the desire that the thing predicted may be realized and enjoyed. False hopes are often stimulated by unreal appearances, which, logically and intelligently considered, fail of any reasonably well assured probability; hence people frequently deceive themselves, and venture out upon the merest crust of prospect, beneath which may lie almost fathomless depths of disappointment.

Fully impressed with the correctness of the suggestions made, we glance cautiously at the impenetrable future, and as far as its mysteries can be judged by the appearances and indications possible of utilization, we feel well assured in saying that the building business in San Francisco will be good during the year 1887. There are signs of encouragement in all directions, and it is safe to anticipate large activities in building improvements.

An Effort in the Right Direction.

The responsible and better class of carpenter contractors in San Francisco, have for a considerable time, maintained an organization designed to remedy the many gross and glaring irregularities, an evil long existing in the building trade. And as we understand it, while the objects and purposes of the society are mutual protection and individual rights and interests, they are claimed upon rational, intelligent, just, and equitable grounds.

To say that the building, particularly the carpenter contracting, business, has, in the main, been run loosely in San Francisco during the past three decades or more, commencing in the early periods of this city's history, and at times since becoming most deplorably bad, with failure succeeding failure, followed by *pro rata* settlements, and discredit upon an honorable business, does not fully express the state of things that has been. The object of the organization is, to arrive at right understandings as between owners and contractors, and the establishment of such practices as will be *impartially* just between all parties. Owners and contractors have respective equal rights and equities. Neither should seek nor wish to gain undue advantage. But the fact must be admitted that the man who does honest work and pays his bills, one hundred cents on every dollar, stands but little show in competition with those who substitute wood butchery for workmanship, and settle their indebtedness at ninety or perhaps ten per cent on the dollar. And it must also be admitted that it is a most provoking and distressing attitude for men of integrity to be forced to occupy, to silently witness their chosen life avocation demoralized and abused, and the once honorable distinction of "honest mechanic," besmeared with the filth and foulness of men enjoying but limitedly, or not at all, mechanical knowledge, to an extent entitling them to recognition as "skillful workmen," and whose honesty of purposes and practices are ever contingent upon the uncertainties of either their defective or designing judgments, with no care for the often damaging results that follow.

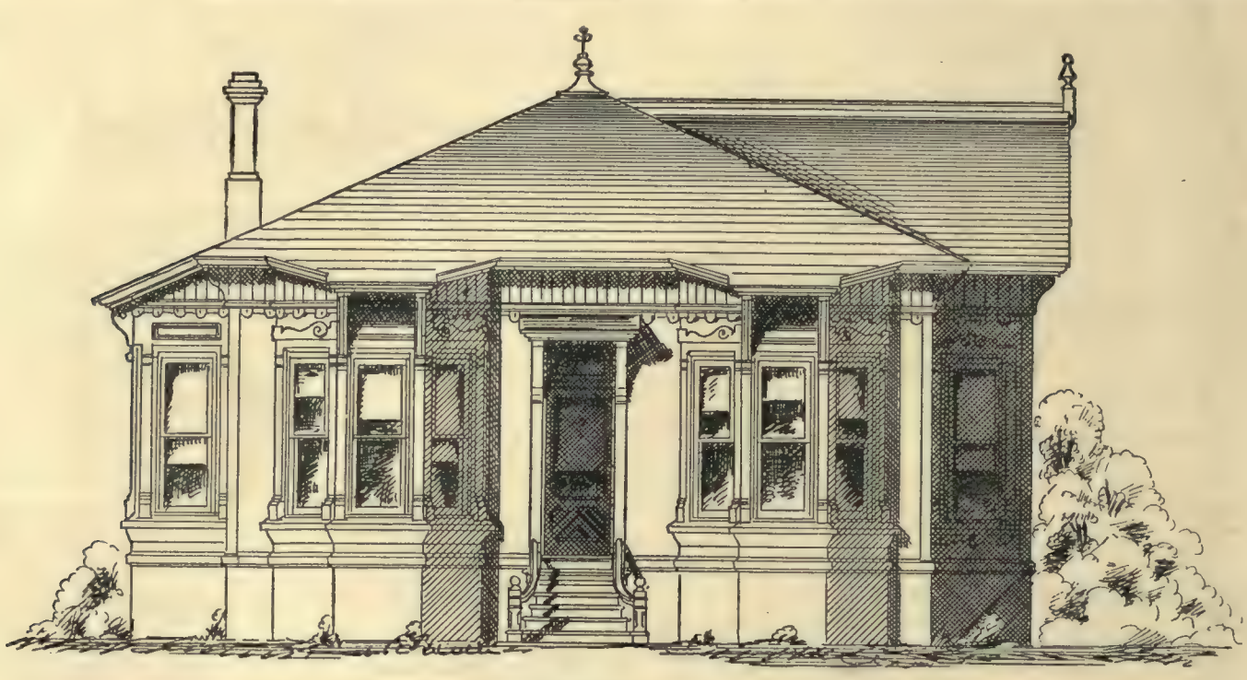
Any number of right thinking men who can combine and bring into practice methods and procedures which will abate the evils that have been and are in the building business, and bring about a bettered and improved condition of things, deserves commendation; and we hope that a generous and just disposition will be exercised by all in interest—contractors, architects, and owners alike—each of whom, being just and honest in every intent and purpose, should have but one common sentiment in reference to matters so plain of understanding as those involved in the erection of buildings.

Meeting of the S. F. Chapter.

The regular monthly session of the Chapter was held on the 7th inst, President A. Pissis presiding, B. E. Henricksen, Secretary.

Minutes of previous meeting read and approved. Mr. Sanders on behalf of the Committee on Classes, read an interesting paper in relation to the progress of the class work, and the necessity for increased facilities in the shape of a convenient room for class meetings, as well as a permanent place—a headquarters for the Chapter. Mr. Sanders read the paper with much earnestness, and expressed the hope that erelong there would be that concert of action applied, which would secure all that is necessary to make both the class work and the Chapter grand successes. The report was adopted and ordered spread upon the minutes.

The committee on the application of Arthur M. Squires, for student membership, reported favorably, and the candidate was elected. The appointment of a committee to confer with the Board of Freeholders, in reference to a Board of Public Works and a



Front Elevation for a Conveniently Arranged Country Home.

City Engineer was suggested, and a committee of three, consisting of Mr. John Wright, James E. Wolfe, and J. Gash was appointed for the purpose.

A committee of three—James E. Wolfe, T. J. Welsh, and J. Gash was appointed to consult with a like committee from the Builders' Association of California, in reference to amendments to the Mechanic's Lien Law.

A general discussion of the Lien Law ensued, and some of its many objectionable features reviewed, showing its inequities and uncertainties, and its illy expressed intents, meanings, and applications.

The reading of a paper on ancient and modern plumbing was deferred until the February meeting.

Building Summary for January.

Considering the dull period through which this city has been passing, the statement for the current month is very satisfactory, exceeding in amount any similar period on record. Our country building interests are looking up very finely, and a great deal of work is assured to mechanics during the coming year.

In January, 1885, we reported in this journal,

73 Building Engagements, of the value of $602,585.

In January, 1886,

79 Building Engagements, of the value of $623,250.

In January, 1887,

Eleven brick buildings	$475,000
Forty frame "	160,200
Eight additions, &c	15,500

Making a total for January, 1887, of

59 Building Engagements of the value of $650,750.

COUNTRY BUILDING ITEMS.

We call especial attention to our list of improvements in every portion of the Pacific slope.

"Carpenters' Steel Square and Its Uses."

We have just received a large consignment of this practical work for mechanics, and upon receipt of $1.00 will forward a copy to any address.

OUR EIGHTH VOLUME.

With this number we begin the eighth volume of this journal. Since January, 1879, we have successfully carried on the enterprise of establishing an architectural journal on the Pacific Coast. We enter the new year full of confidence for the future, and our ambition is more than gratified when we reflect that, from a few subscribers in the start, we can boast of a larger circulation than all the rest of architectural journals combined that are published west of the Rocky Mountains. We sincerely thank our numerous patrons who have done so much to help us. Subscription price will remain the same, viz., $2.00 per year in advance.

The Best of Drummers.

THERE is no better drummer for business men than a well-established and reliable trade journal. It pays no railway fare, for no extra baggage, for no luxurious hotel bills, for no cigars or other incidentals usually charged up to the firm by the regular traveling man. It goes directly to the customer each and every week at all seasons of the year. It is a constant medium of friendly intercourse between the wholesaler and retailer. It tells the latter from week to week how and where he may order the latest and most attractive goods, and points out to him the most favorable time for buying and stocking up his store. The trade journal is constantly growing in importance. Its merits are being recognized more and more each year, as is evidenced by the increase of its subscription list, and the extent of its advertising patronage.

It is a common idea that a "chimney cannot be too large;" in other words, the larger the area of the flues the better the draught will be. This is not always the case. In many cases—in foundries, manufactories, .etc.—where a chimney has been built large enough to serve for future additions to the boiler power, the draught has been much improved as additional boilers have been set to work The cause of this is to be found in the increased steadiness of draught, where several boilers are at work and are fired successively, as also in the better maintenance of the temperature of the flue.

An old saw-mill man explains the origin of the term "mill culls" thus: "In old times this was the class of culls that went to the mill man in lieu of a saw bill, consequently "mill culls.'"

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ON page 2 we present the elevation, and on page 3 the plan, for a very desirable and well arranged country or suburban home. The elevation is one that will attract attention from its neatness and simplicity. It is especially designed to do away with all fancy outside work. The plan is admirably adapted for a home in the country where fluctuations of temperature occur. A perfect system of ventilation can be had through the various parts of the house. In case of a hot spell, there is room enough on the side porch for a table, so the occupants can dine in the open air.

The bath-room is handy of access from several rooms, as well as being in easy communication with the outside porch. A pass slide between the pantry and dining-room closet enables the servant to confine all the smell of cooking to its proper quarters.

The front chamber is conveniently arranged for visits from "city cousins." There is ample closet room. If thought more desirable, one of the windows looking out on side porch can be changed for a door.

CARPENTERS' STEEL SQUARE AND ITS USES, PRICE $1.00

History of the Saw-Mill.

THERE are few tools more ancient than the saw. All the ancient nations appear to have had it; certainly the Hindoos, the Egyptians, the Greeks, and the Romans. The saw may have existed even before there were any men on earth. There is a creature called the saw-fly, with the saws in its tail, which it actually uses for sawing the stems, leaves, and fruits wherein its eggs are to be deposited. There is also a saw-fish, the long snout of which is a saw. It is said also that the original inhabitants of the island of Madeira found a ready-made saw in the backbone of a fish.

The Greeks had a pretty story attributing the invention of the saw to the accidental finding of the jaw-bone of a snake by one Talus, who used it to cut through a small piece of wood. Being a slave, and finding that the jaw bone eased his labor, he made a saw of iron, and thus gave mankind a new and most valuable tool.

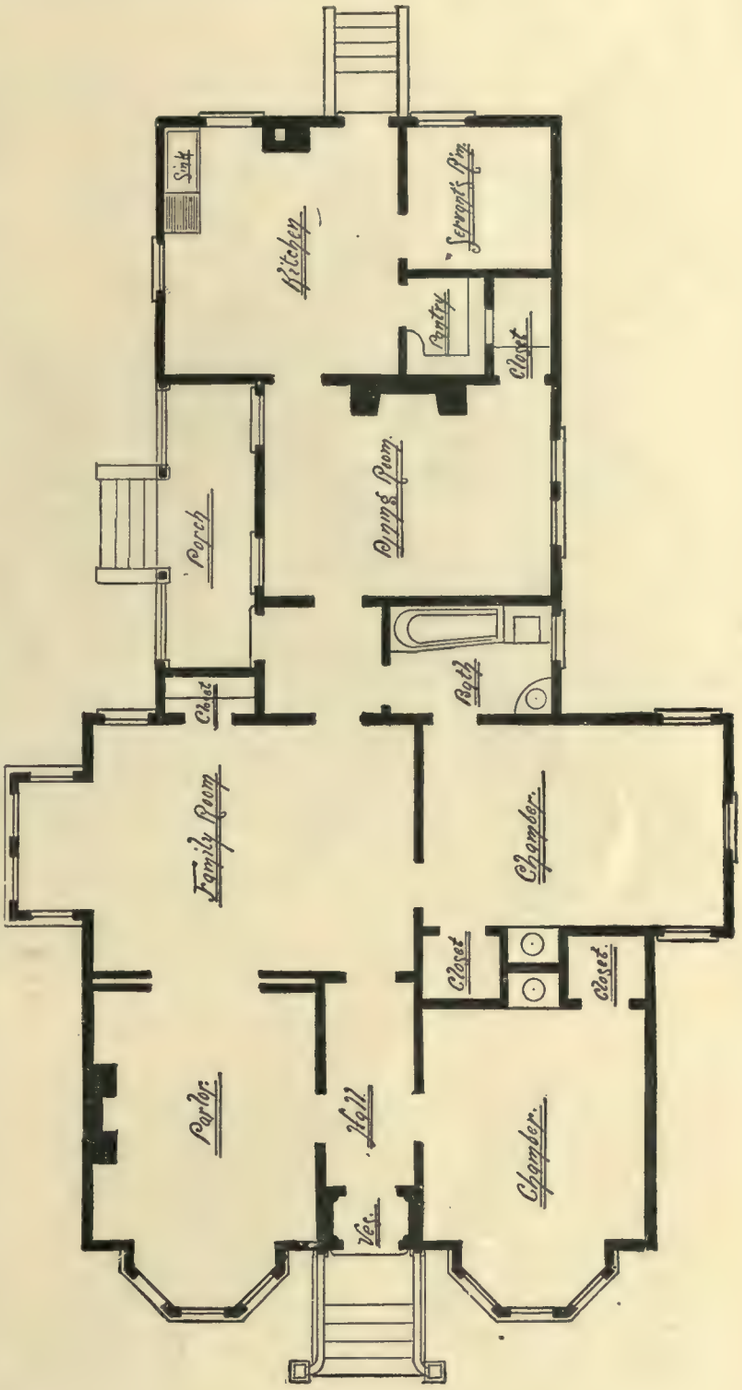
The ancient saws differed from ours in two ways. The teeth were so arranged that the cut was made by pulling instead of pushing; and the teeth, instead of being set one to the right and one to the left alternately, were set so that ten or a dozen in succession were slanted one way, and the same number the other way. The ancients had several varieties of the implement. The Greeks, for example, had crosscut saws for two men, also saws for cutting marble into slabs. And they had a kind of tubular saw for hollowing out a marble bath-tub, similar in principle to the method now employed.

Among the pictures uncovered in the buried city of Herculaneum there is a representation of two genii sawing a piece of wood on a carpenter's bench very much like ours, and using a saw with a wooden frame similar to those now employed. Still more strange, the frame saw, tightened with a rope and stick, such as our street wood-sawyers use, was probably as familiar to the Romans as it is to us.

A saw-mill, however, by which wind, water, or steam is made to do the hardest part of the work, was not known to any ancient nation. Sawing by hand, next to digging a stiff clay soil, is about the hardest work that men ordinarily have to do. It is therefore not surprising that our ease-loving race began to experiment a good while ago with a view to applying the forces of nature to the performance of this toil.

A learned German investigator, who has investigated the subject very thoroughly, states that the first trace of the saw-mill yet discovered is in the records of the German city of Augsburg for the year 1337. The reference is slight, and does not fix the fact with certainty. But there are two saw-mills near that city which are known to have existed as far back as 1417, and they are still used. Before that valuable invention, all boards and planks were split with wedges, and then hewn to the requisite smoothness with the ax. The splitting of boards is still practiced in remote settlements, as I myself have seen; and it is recorded of Peter the Great, of Russia, that he had much difficulty in inducing the timber cutters of his empire to discontinue the method. At length he issued an edict forbidding the exportation of split planks. Even in Norway, covered with forests as it was, there was not one saw-mill before 1530. Nowhere in Europe, it appears, was the introduction of the saw-mill so long resisted as in England. In 1663 a Hollander erected one in London; but it brought upon the poor man such an outcry and opposition that he was obliged to abandon it. The sawing of timber by hand furnished occupation, at that time, and long after, to large numbers of strong men. In every town there were saw-pits, as they were called, for the convenience of the sawyers, one of whom stood at the bottom of the pit and the other on the log. We can easily imagine that when every beam, plank, and board, thick or thin, had to be sawed by hand, the sawyers must have been a formidable body, both from their numbers and their strength.

After the failure of the Dutchman in 1663, there was no serious attempt to start another saw-mill in England for more than a hundred years. In 1767, an English timber dealer of large capital built a saw-mill to be moved by the wind. It was thought to be a great and difficult enterprise, and it attracted much public attention. Some years before an author had explained the advantages and economy of saw-mills; then the Society of Arts gave the scheme of building one their approval, and finally the mill was actually built by an engineer who had studied the saw-mills of Holland and Norway. No sooner was the mill complete than the sawyers assembled in great force and tore it to pieces. The Government compensated the owner for his loss, as was just. Some of the rioters also were convicted and imprisoned. A new mill was then built, which was allowed to work without molestation, and proved so profitable that others were soon introduced.



PLAN FOR CONVENIENTLY ARRANGED COUNTRY HOME.

BUILDING CORRESPONDENCE DESIRED FROM EVERY PORTION OF THE PACIFIC SLOPE.

DESIGN FOR COUNTRY MANSION.

Design for Country Mansion.

THE accompanying engraving is taken from a design that was awarded a diploma at one of the fairs held by the Mechanics' Institute in this city. James E. Wolfe, architect.

MECHANICS' GEOMETRY,
Price - - - - - - $4.00.

Closet Ventilation.

A NEW JERSEY architect claims the distinction of being the first house-designer to ventilate clothes closets, and this fame-making act was performed in the year of grace '86. Some of our readers may contest the claim, but we are compelled to admit we have never seen a ventilated clothes closet in a private dwelling, although we have long been in search of one. Seriously, this failure on the part of architects is a matter of grave importance, and when it is considered that no cost is attached to the obtaining of what all admit the necessity for, the continued neglect of architects in this respect is past accounting for. The St. Paul *Farmer* has been publishing a series of excellent articles on common sense in building, and while it emphasizes the housekeeper's demand for closets, it forgets to ventilate them. It says: "So, in planning a home, the ladies' wishes must be attentively considered, 'first, last, and all the time.' Generally the first demand is for closets large and closets many, closets dark and closets airy, closets here and closets there—closets everywhere! But though closets may be classed in the category of those good things of which it is difficult to have too many, still they are to be kept judiciously in the background, filling space which would not otherwise be of much use, as at the end of halls and in 'half stories' in the low space under the roof at the side of rooms. For instance, if the wing of a house is sixteen feet wide, and the walls run up but three feet above the second floor level, leaving the ceiling to slope from that height upwards, the space near the walls is of very little use in a room. But if three feet be taken off for a closet at each side, then there results a room ten feet wide, with side walls high enough for most purposes in a bedroom, and with two good closets, or one of the closets may be entered from another room or hallway."—*Ex.*

[We print the above merely to show the errors in the article to those acquainted with facts. Plans are on file in this office that are nearly a quarter of a century old, showing plainly the ventilation of closets by means of a hole in the ceiling covered with wire cloth, and having direct communication between the joists with the outside air. How anyone can have the cheek to claim a *new* invention in '86 that is of almost ancient origin, is an insolvable mystery.—ED. ARCHITECT.]

In no part of the world, probably, has the saw been more minutely and curiously developed than in Great Britian, where they have saws so fine as to cut diamonds, and circular saws nine feet in diameter and a quarter of an inch thick. They have also veneer saws so accurately adjusted as to cut eighteen slices of veneer from a rosewood plank an inch thick. In London they will put a log of mahogany upon the mill and cut it into slices so thin that the sawdust weighs more than the veneer. Yankees have beaten this performance. They take a piece of mahogany or rosewood, soften it by steam, and cut it into veneers with a knife, without making a grain of sawdust.

Daniel Webster tells us that his father had a saw-mill after his removal to New Hampshire, at the source of the Merrimac River. Daniel, who was by no means fond of labor at any part of his life, liked nothing better in his boyhood than to attend this saw-mill, because when he had put his log in position and started the saw, he had sixteen good minutes for rest or reading before the business required further attention.—*Journal of Progress.*

And we may further add that it is a part and parcel of the history of the successful saw-mills on this coast that they have been supplied with saws made by the works under the control of Messrs. Spaulding, Patterson & Sheffield, and known as the Pacific Saw Manufacturing Co., Nos. 17 and 19 Fremont Street, San Francisco. All the saws in the mills are supplied with the patent Spaulding inserted teeth. The one fact that it is the successful mills that have used these saws, should induce every proprietor on the Pacific slope to at once replace their old-fashioned saws by the splendid new manufactures of the Pacific Manufacturing Co.

A 4x8 billiard table requires a room not less than 13x17 feet.

A Simple Rule for Measuring Straight Logs.

THE *Southern Lumberman* says an experienced log and lumber inspector gives the following short and easily remembered rule for ascertaining the contents of a log by Doyle's rule when a copy of Scribner's book is not available:—

RULE.—Square the diameter of the log after subtracting 4 inches from it, and the result will be the exact contents in inch boards of a log 16 feet long. A log 8 feet long will be half this amount, 12 feet long three-quarters, 14 feet long seven-eights, and so on.

OAK may be darkened by exposure to the fumes of ammonia in a close box, but if the work is first oiled with linseed oil and wiped dry with a cotton or linen cloth, and then a solution of bichromate of potash (say half ounce of potash to one pint of water) be applied, it will darken it and not raise the grain, either of oak, mahogany, or cherry. Care, however, must be taken that the work is not made too dark by too many applications of the solution.

EVERY ARCHITECT SHOULD TAKE A PRIDE IN BEAUTIFYING THIS JOURNAL.

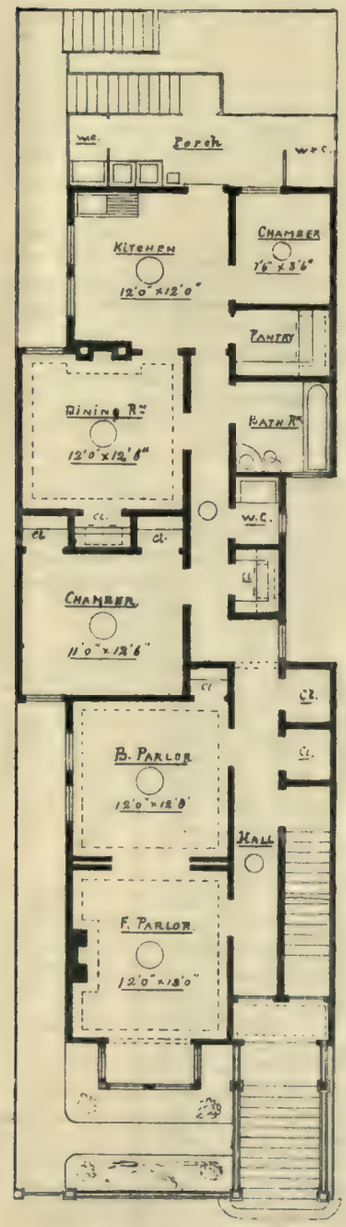
Design for City Flats.

[The accompanying elevation and plans for city flats were prepared by Mr. Salfeld, architect, 216 Kearny Street. We append his personal description of the same. In future it will be the aim of the editor of this journal to secure the best talent available for illustrations of houses of every conceivable design and form.]

WE present on this page a design for two flats in the Eastlake style of architecture, the first containing six rooms and the second seven. With the exception of a hall bedroom on the second floor, and one or two closets on the first, the two plans are designed nearly alike, and one description will answer for both. The elevation has a graceful and picturesque effect, and is cheap and economical in construction. The architraves of the bay-window and entablature over portico are supported by small turned columns, unique in design, and very pretty and attractive. The columns of the porch are turned with octagon cap, faced with small rosettes. The frieze of the entablature is constructed with turned balusters, with ornamental scroll work, and blocked bed mould above. The projecting gable over bay-window is finished with turned rosettes, fancy shingling, and moulded cornice. The light and airy exposure, convenient arrangement, closet accommodations, etc., of the spacious rooms, can readily be seen by referring to the floor plans. The halls extend through the building, thus affording communication with any of the rooms without passing through others. In the hall of the first story are two large closets, and a flight of basement stairs, with door opening into hall, is constructed under stairs leading to second story. The basement is seven feet and six inches high, planked and partitioned off into cellars and other rooms. The rooms are well proportioned, provided with commodious closets, and all other necessaries required by a family who appreciate the conveniences of a model home. We wish our readers to understand that a plan is the main consideration in building, and that an elevation can be changed into any style to suit the taste of the owner, therefore we devote more time and space to the study and description of the plan, knowing it to be most important.

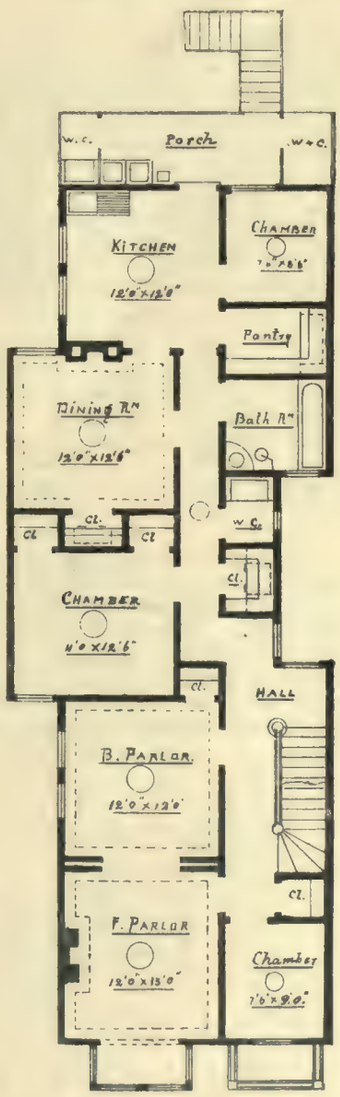
Elevation

[The above is from a new California work entitled, "Country and City Homes." It contains eighty pages of designs for all classes of buildings, and is sold for 50 cts. a copy. We will forward one to any address upon receipt of the amount.—ED.]



FIRST FLOOR PLAN.

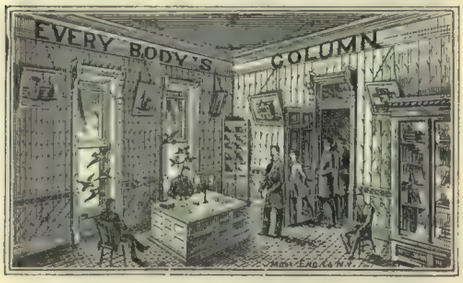
THE policy adopted by some large employers of labor of discriminating against members of trade unions and labor organizations in engaging hands is, in our judgment, the most unwise which could be followed. The workmen may be induced to form an alliance with employers for their mutual advantage, but they become restive and intractable when an effort is made to deprive them of their rights. The true policy of the employer is to make no distinction between union and non-union men, and to refuse unconditionally to aid the unions in compelling those who prefer independence to join them. The employer who consents to discharge good men because they will not join the unions and submit to the fines and penalties usually imposed upon them for not having joined sooner, places himself completely under the control of the worst elements of organized labor, and has no reason to expect fair or just treatment at their hands. In dealing with workingmen a little tact usually accomplishes more than a great deal of bluster and obstinacy. For example: Not long ago a manufacturer employing more than a hundred men was waited upon by a committee of the union to which a majority of his workmen belonged, and was told that it would be necessary for him to discharge ten non-union men in one of his departments. To have refused unconditionally would have led to a strike, entailing serious inconvenience and loss. After considering the matter for some minutes, he replied: "Well, boys, this is not a good time to quarrel. I am running fuller than the state of the business warrants, and have been thinking of reducing my force. At the end of the week I shall have to discharge twenty men. These will include the ten non-union men you object to, and I will leave it to you to pick out the ten union men I am under the necessity of parting with. Whenever you are ready to report your list of names I will notify the twenty men that I shall not have work for them after Saturday." The committee reported back to the union, but the list was never furnished, and the non-union men are still at work. The alternative presented to the committee was a perfectly fair one, and it carried vastly more weight than argument or angry contention. The manufacturer's interest is to "show fair" in the struggle between independent labor and labor controlled by the unions, and if possible to ally all in his employ so closely to himself by the ties of self-interest that there will be no inducement to take shop questions outside the shop for adjustment. Whether a man belongs to a union or not is a question with which the employer has no occasion to concern himself.—*Carpentry and Building.*



SECOND FLOOR PLAN.

INCREASED PATRONAGE WILL ENABLE US TO MAKE STILL FURTHER IMPROVEMENTS.

ASKED, ANSWERED, AND COMMUNICATED.



☞ Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

Free to All.

The columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to assume that we have passed the reef of human liability to err, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assure—that whatever of error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

We intend to make a specialty of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanics, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas on the practical questions of the day; and we hope to receive from those interested, and especially amongst builders, questions arising in their daily practice. No matter what may be the solutions given to the various problems presented, we shall only be too pleased to receive replies from our readers, where they see other and better solutions for them. If a general interchange of ideas can be brought about, great advantages will ensue to all. Let not a month go by without bringing up for discussion practical topics in the architectural, mechanical, or scientifical pursuits. We desire a general expression of opinions, for or against, of every article presented by us. Every communication will receive deliberate and careful consideration.

Editors Architect: I noticed in your December issue that Mr. D. Bink was in trouble, and had applied to you for information in regard to a rule to mark out the top and bottom cut of a sloping brace of square timber, with the diagonal corners standing vertically over the opposite. In answer, I offer the following:—

1. To a man that can make all the cuts and bevels necessary for framing a hip roof. If you compare the top end of the brace with the ridge and valley rafter in a roof, you will readily see that they are the same. So if you take a square stick, say a 4x4, it will form a $\frac{1}{2}$ pitch. If the brace is set at an angle of forty-five degrees, you get the bevel thus:—

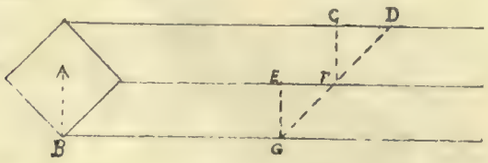


Fig. 1.

Take one-half of the diagonal width, as at A B, and measure this distance along the edge of the stick, as at C D. Square over to the other and join D F. Measure as before, making E F equal to C.D. Square across timber again, and join F G.

2. For a simpler way, that will suit all braces and at any angle, take a piece of timber and mark as above. Suppose you have a 4x4 to be cut, say 6 feet from a post, and run up on the post 8 feet 6 inches. Lay your square on the lines laid down thus:—

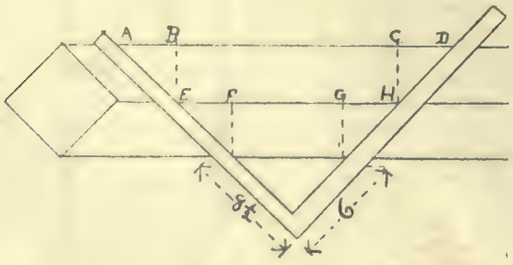


Fig. 2.

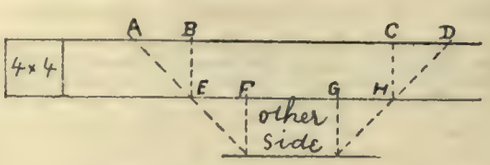


Fig. 3.

Transfer the distance A B in figure 2 to the side of the timber in figure 3. Square over to the other edge, and join the angles as before; then cut.

Another way: Take your square and find the distance across from $8\frac{1}{2}$ on one arm of the square to 6 on the other, same as for a common rafter. This distance will mark the side, using the line formed by the arm of the square with the 6.

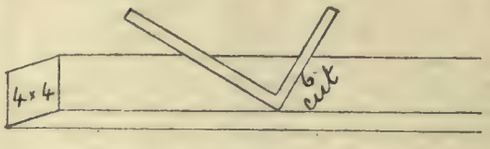


Fig. 4.

Cross over on the other side and cut.

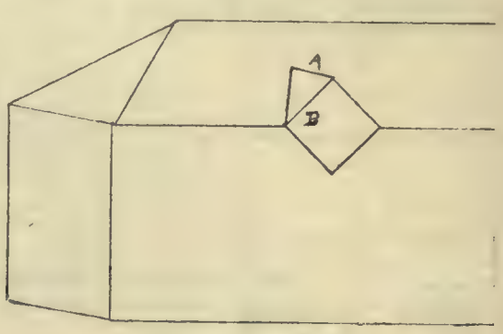


Fig. 5.

A B represents the ridge or edge of the 4x4; the line to the left of B the valley or side of the 4x4. It will be noticed that the ridge A is one-half the width of the width B.

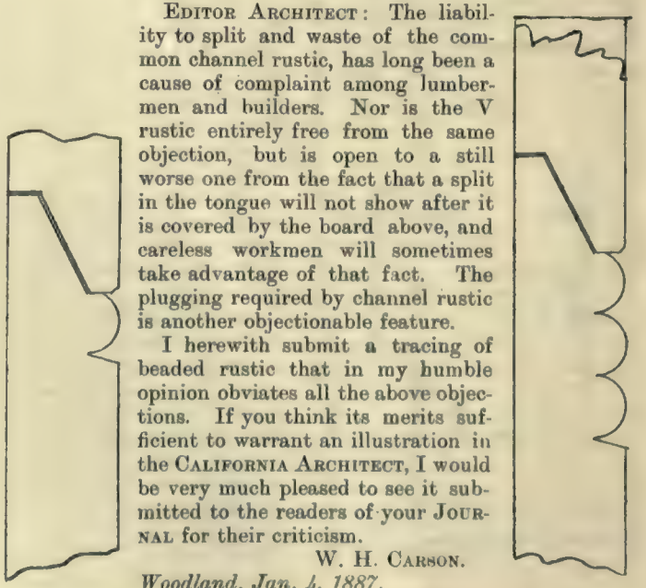
Of course if my propositions hold good, and practical experience has so proven them, any distance can be used instead of those given, by applying the instructions given.

Yours truly, B. McManus.

Oakland, Dec. 29, 1886.

[The above is one of several answers received in regard to the inquiry of Mr. Bink. We thank its author for the interest shown, and trust that all of our mechanical friends will emulate his example. We will be pleased to hear from those who make a practical demonstration of above theory in regard to the correct working of the principles advanced.—Ed. Architect.]

Editor Architect: The liability to split and waste of the common channel rustic, has long been a cause of complaint among lumbermen and builders. Nor is the V rustic entirely free from the same objection, but is open to a still worse one from the fact that a split in the tongue will not show after it is covered by the board above, and careless workmen will sometimes take advantage of that fact. The plugging required by channel rustic is another objectionable feature.



I herewith submit a tracing of beaded rustic that in my humble opinion obviates all the above objections. If you think its merits sufficient to warrant an illustration in the California Architect, I would be very much pleased to see it submitted to the readers of your Journal for their criticism.

W. H. Carson.

Woodland, Jan. 4, 1887.

BOUND NUMBERS OF THIS JOURNAL MAKE A SPLENDID BOOK OF REFERENCE.

TO FIND the weight of round iron per foot, square the diameter in quarter inches and divide by six; the quotient is the answer, and very near the actual weight.

IT is sound business policy to patronize the liberal advertiser. He has confidence in his goods, or he would not risk his money in advertising them. He can sell cheaper than a non-advertising competitor because he can manufacture in large quantities and get material at lower prices.

FOR attaching mouldings and other light lumber, a new kind of nail has been contrived, which leaves no nail holes. It is made with a point at each end and with an outwardly projecting head or shoulder midway between the points. The nail is first driven into the wood by means of a punch which straddles the protruding point and bears on the head. When enough have been driven in, the moulding is placed over the nails and driven down.

IT has been ascertained that timber which has been floated in water for a considerable time is no longer liable to the attack of dry rot. The albumen and salts are slowly dissolved out, thus depriving the fungus of the nutriment needful for its development. A French experimenter has shown that fresh sawdust rots away in a few years in damp earth, whereas sawdust from which the soluble matters have been soaked by water, remains unchanged under like circumstances.

THE question of how to prevent checking in the ends of timber when it is being seasoned is engaging the attention of English engineers. According to a recent report, it has been ascertained, after trying a number of expedients, that by painting the ends of the timber with thick glue several kinds of lumber can be dried without checks. It is supposed that the glue penetrates far enough to cement the layers of the wood together near the ends, and thus keep the ends from drying faster than the rest of the wood. Of course this method requires seasoning under cover, since rain would have the effect of dissolving the glue.

POWDERED glass is largely taking the place of sand in the manufacture of sand-paper. It is readily pulverized by heating it red hot and throwing it into water, the finishing being done in an iron mortar. By the use of sieves of different sizes of mesh the powder can be separated into various grades, from the finest dust to very coarse, and these should be kept separate. A strong paper is tacked down and covered with a strong size of glue, and the surface covered with powdered glass of the desired fineness; when the glue is dry the surplus glass is shaken or brushed off. Muslin is better than paper, and lasts much longer in use.

THE blistering of paint upon wood is not, as is generally believed, the direct effect of heat upon oil in the paint. If it were, we should find it taking the same action upon iron or plaster, which, we need scarcely say, is not the case. Heat, in the case as above noted, is a secondary agency, the primary one being steam, generated from the moisture in the porous wood, below or behind the impervious face or coating of paint. It is truly speaking a blister; but it is also a blow, expansion or cavity caused by the generation of steam. Blisters formed on wood, if cut or pricked at an early stage, so as to let out the steam, may be erased by carefully rubbing them down to their original bed, especially so if separation has taken place on the face of the wood, in preference to the face of the priming, or first coat of paint.

Wooden Bolts.

THE following article from an exchange on the subject of wooden bolts will doubtless prove of interest to our readers: "Why do you make so lavish a use of nails in the carpenter-work of our houses, to the exclusion of the honest, old oaken pin? Pull down any building, if it be merely a barn, more than two hundred years old, and you will not find a single nail in the original work; rafters and joists were all bolted together so stoutly as almost to defy the tools of the destroyer. Many an old manor barn, when pulled down of late years—as, unfortunately, only too many of them are—has shown itself to have been better built than most palaces are now. There are arguments in the way of economy of time, and so on, in favor of the use of nails in house building, but they are as nothing compared with the solid advantage of using wooden bolts. The iron nails in time canker and rot rafters and floors, but bolts hold them together 'like grim death,' and render a house practicably indestructible."

THE ash is one of the most valuable of trees. Its timber is elastic, tough, and durable. It is called the "husbandman's tree," on account of the great variety of household and agricultural implements that are made of it. It used also to be called "the martial ash," because weapons of war were formed of its light, yet tough wood.

RECENT inquiries show that among the 20,000 carpenters in London, the expert workers average only eighteen cents an hour, while the inexpert get only twelve cents. Carpenters in Paris can only earn $1.70 for ten hours' work; in Berlin they work only eight hours a day for $1.05 per day, and are out of work on the average three months in the year.

THE latest example of "Queen Anne," or nondescript architecture, is furnished by the Philadelphia Mint, the superintendent of which, in order to obtain more room, and in the absence of ground to build upon, added a roof story, putting a French mansard on a building of pure Grecian architecture. *Engineering News* dubs the new style Franco-Grecian.

"MOONLIGHT nights are the bane of railroad engineers," recently remarked a head official of the Baltimore and Ohio Railroad. "All engineers dread moonlight nights. They try the nerves to the utmost. Engineers like to run on dark nights. On a moonlight night the trouble with them is no trouble at all—shadows. An engineer, looking out from his engine, sees before him all manner of shadows. He is sure that the dark shadow across the track he sees is a man, or a rock, or some kind of an obstruction. He doesn't know, and he is kept in a state of nervous excitement all the time. Going around curves, along hillsides, many curious shadows are outlined on the track; and very often an engineer is so worked up over a night's ride that he is scarcely able to perform his duties."

Built-up Doors.

A FEATURE of the building trade is the extensive use that is made of veneers. The method of building up doors of strips of pine has tended directly to this result. The built-up door, made of strips of pine glued together, is stronger than any other kind, at least of equal weight, and will not warp. But it necessitates the use of veneers of some kind. For heavy doors, quarter-inch stuff is used; but for the smaller doors in residences, one-eighth inch is often considered thick enough. The kind of wood depends on the finish of the room. Mahogany, cherry, oak, and curly or bird's-eye maple are perhaps the most common. This method of construction is particularly valuable where the opposite sides of doors have to be finished differently, to correspond with the rooms which they respectively face. This has often been done by making the door of two layers generally of equal thickness, the unequal shrinking and swelling of which would twist the door, and often tear it to pieces. The objection is raised against veneering that it is dishonest, and so not true art. That criticism should never be made in regard to such work as that mentioned. The built-up door of pine, veneered with mahogany, costs about as much as one of solid mahogany, and is a better one.—*Ex.*

Have a Specialty.

THE following from an exchange is well worth reading:—"Many persons fail in achieving their ends, for the reason that their efforts are too diffused and cover too much ground. In engineering, the details are so great, and the fields so vast, that many may be specialists without coming in direct conflict with each other, and the man who knows one thing well, instead of many things superficially, is always in request. Special information, provided it is thorough, is always better paid than general information, that skims the surface and leaves the depths untroubled. In these days of technical papers and encyclopedias, the average reader can know a little of many subjects, but it is notorious that a little knowledge is dangerous, and, we might add also, that it is useless. The versatile man is generally an inefficient one, and, while he may be interesting as a companion, or to while away an hour in gossip, he is of no use in mechanical emergencies. Where would the versatile man be in certain of these, which often arise in the profession? From the necessity of his calling, an engineer may know and be well informed on a great variety of technical matters. He must know these thoroughly or indifferently, according to his desires, but this does not prevent him from making a study and investigation of some particular line or subject."

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

A Convenient Country "Box."

THE accompanying plan is an admirable one for a country or suburban house. It will repay careful study. Prepared especially for this Journal, by James E. Wolfe, architect.

The Architectural Draughtsman.

NUMEROUS inquiries have reached us from time to time from persons anxious to acquire a knowledge of architectural or mechanical drawing, asking us to indicate a course of study which, while being thorough, should not be too extended. Some of the inquirers wished to gain a knowledge of the subject for the purpose of making it a profession, while others desired to learn something of it for the purpose of assisting them in their trades.

The investment of time occupied in learning architectural drawing is almost certain to prove profitable. A mechanical draughtsman who is fairly well educated in other respects is nearly sure of finding employment at a fair salary in almost any town of size, for where there is a town there will be building going on, and the services of a draughtsman needed in getting out the drawings and plans. Even in comparatively new settlements, the services of a man who can make working, and other drawings, are generally in more or less demand. Draughtsmen and designers are required in nearly all the mechanical trades,—in the manufacture of silk, woolen and textile fabrics, paperhangings, lace, carpet, and floor cloths; in fact, it is scarcely too much to say that there is not a mechanical art in existence in which the services of a draughtsman are not either directly or indirectly required.

It is a most erroneous idea to suppose that so long as a man can "draw to scale" he is entitled to call himself a mechanical draughtsman. To become justly entitled to such a term, a course of study of no mean order is necessary. First, we have geometry, which is the real basis and foundation of all mechanical drawing, and a knowledge of that subject is therefore absolutely essential; but a man who wishes to become a good draughtsman must go far beyond that. In the course of his vocation it will frequently happen that problems will arise needing a very intimate knowledge of the principles and practice of orthographic projection for their solution, so that he must make himself acquainted with the subject in a deeper and more extended manner than would be sufficient for the preparation of simple plans.

Then besides a good idea of coloring, and an artistic filling in finishing off drawings, a draughtsman should know something of isometrical projection. Take the case of farm buildings. Probably there is no simpler and clearer way of giving an accurate idea of the extent and arrangement of the agricultural class of buildings than to make the drawings in isometric projection, showing the plans and elevations in one view, and at the same time permitting perfectly accurate measurements being taken from them. The system is simple and very easily acquired, and is of great practical advantage in many other ways. Then perspective drawings are required, and a knowledge of that subject is necessary. The ordinary plans and elevations of a building prepared for working from are not sufficient to give an accurate idea of it to persons unaccustomed to such drawings. As a matter of fact, an elevation is a drawing of a building as it is, and not as it appears, and on that account it is desirable, when preparing drawings for a client, to show them in perspective. The art displayed in the coloring and finishing of such a drawing will do much in helping a man to decide upon the eligibility of a design for his purpose. Many architects, in designing the external portions of a structure, remembering this fact sketch their rough designs in perspective, from which they obtain a much better idea of the final appearance than they could possibly get from the ordinary plan and elevation.

What is sometimes termed "free-hand" drawing, that is, drawing without the aid of instruments, is very necessary to a good draughtsman. There is scarcely a drawing, large or small, in which some detail or other has not to be put in by hand, and the neatness of the drawing, as a whole, will largely depend upon the accuracy with which this is done. In the best perspectives the lines are first set out to rule in pencil, and are afterwards inked in by the unaided hand. In this way the stiff and conventional appearance of ruled drawings is avoided. Again the draughtsman must be able to work freely with his unaided hand, in order to put the lettering in neatly. It is surprising how many drawings are spoiled in appearance by the slovenly and inexact manner in which the lettering is done. On even, well-executed drawings it is not at all uncommon to see the lettering put in, as far as possible, by mechanical help, all the straight lines being ruled, and the curves put in with the compass. This practice is to be condemned, because the letters drawn in such a way will always have a stiff and inartistic appearance, while the very obvious manner in which they were drawn can scarcely redound to the credit of the draughtsman. In finishing off all drawings, excepting, perhaps, highly finished and elaborate perspectives, and other drawings of much importance, many architects only take the trouble to write the various titles upon the drawing, whilst others stamp them on with a rubber stamp, or stencil them on with special stencils made for the purpose. All these methods are equally objectionable. With a little practice anyone can learn to put in the lettering by hand almost as quickly as stenciling or stamping. For ordinary working details, and other purposes where a comparatively rough style of lettering suffices, the upright engrossing style answers very well, as it looks neat and is quickly executed. In ordinary "printing" letters it is usual to fill in each letter with a fine-pointed pen. This method, although probably the best where extreme accuracy is required, occupies too much time in ordinary cases. We therefore recommend students to try the use of the "inking in" pen for the purpose. It should be held in the hand in the same way as a pencil, and each stroke of a letter be traced with one movement of the pen. In working upon a smooth-surfaced paper or tracing linen, this method is of great advantage, as all

(*Continued on page 10.*)

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Practical Geometry,	1 00
Practical Perspective,	5 00
Woodward's Country Homes,	1 50
Woodward's Farm Homes,	1 00
Woodward's Graperies,	1 00
Manual for Furniture Men,	1 00
Landscape Gardening,	1 50
Common-Sense Church Architecture,	1 00
Painter, Gilder and Varnisher,	1 50
How to Paint,	1 00
Architects' Companion,	2 50
Model Homes,	1 00

Hand Railing and Stair Casing,	1 50
Drawing for Carpenters,	1 75
" " Bricklayers,	1 50
" " Cabinet Makers,	1 50
" " Stone Masons,	1 50
Building Construction,	1 25
Linear Drawing,	1 25
Cutting Tools,	1 50
Cumming's Details,	5 00
Carpenter and Joiner,	7 50
Stair Builders' Guide,	3 00
Drawing and Shading,	1 25
Carpenters' Manual,	50
Steel Square Problems,	1 00
Work Shop Companion,	35
Bound Volume California Architect,	2 00
Specifications,	50
Barn Plans,	1 50
Solution Pyramid Problem,	1 50
Standard Scroll Book,	2 00
Swiss Cottage,	2 50
Every Man His Own Mechanic,	3 50
Tredgold's Carpentry,	7 50
Builders' Companion,	1 50
Builders' Work,	5 00
Builders' Construction, (Three Volumes, Very Fine)	14 00
People's Cyclopedia, (three large volume,)	20 00
Homes for the People,	2 00
Mural Painting, (New)	3 00
Home Hand-Book,	10 00
Ruskin's Works, (four volumes)	6 00
Industrial Drawing for Carpenters,	2 00
Limes, Cements and Mortars,	4 00
Wonders of Art,	1 25
Architecture and Building,	3 50
American Cottage Building,	3 50
Windmills, by Wolff,	3 00
Illustrated Drawing Book,	1 00
Hand-Book of Legendary Art,	3 00

ART AND SCIENCE OF CARPENTRY

MADE EASY.

REDUCED FROM

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MECHANICS' GEOMETRY,

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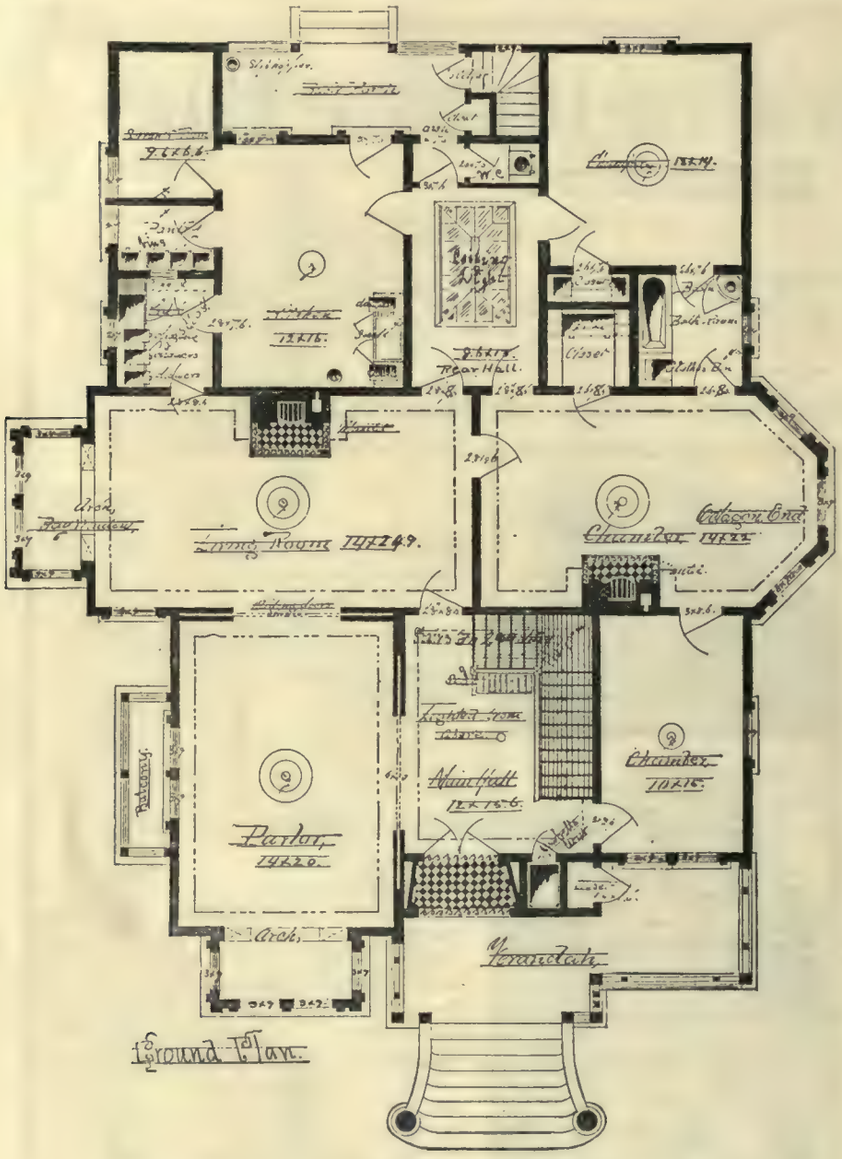
OUR FEBRUARY ISSUE WILL BE REPLETE WITH INTERESTING INFORMATION.



PLAN FOR COUNTRY HOUSE. (See opposite page.)

the parts of the letters are of one thickness and uniform throughout, while the time occupied is little more than that taken in writing the word in the ordinary way.

Those who are deficient in the art of free-hand drawing will find the following an excellent system of practice. The object is to render the hand free, and to train the eye in accurately judging distances. Obtain a blackboard and a piece of chalk, or, in the absence of these, a sheet of rough paper—a newspaper answers the purpose—and a soft pencil. Then take chalk or pencil firmly between the finger and thumb, and rapidly draw a curve of some kind, moving the hand and arm from the elbow, and not from the wrist. Draw a number of curves in the same way in all directions, taking care not to sketch them, but to trace the whole curve with one movement of the arm. Then draw a number of parallel lines in various directions—horizontal, vertical, and oblique—and then draw fresh curves joining onto the straight lines. This is literally to "get the hand in," and a half an hour's practice occasionally will be of considerable benefit. The student may afterwards proceed to make upon paper careful copies of free-hand drawings, choosing at first figures of simple outline, such as the outline of a vase, or a number of curves meeting at a center and forming some kind of a design. The method in this case will be entirely different from the blackboard practice. Lightly sketch vertical and horizontal guide lines, mark off upon them points where the figure intersects, and then lightly sketch in the outline through these points, and, when satisfied as to the accuracy of the figure, complete with a bold, even, and continuous line. Remember that the distances must all be judged by the eye alone, and the use of rule or measure never be resorted to. After having become somewhat proficient with this class of figures, the student may next proceed to take more difficult copies. The designs for terra cotta, and other ornamental panels and belt courses taken from the manufacturers' catalogues, can be easily obtained, and will answer the purpose admirably.

The subject of coloring is important. Many a good drawing has been hopelessly spoiled by indifferent coloring. In most cases the colors required are simple washes, but it is quite necessary that they should be perfectly uniform. To obtain a flat, uniform wash, the drawing should be placed on a board, which should be slightly tilted. A full brush of color should be taken each time, so that there is always a little pool of color upon the paper until the bottom is reached, when it will be gathered up. The secret of obtaining good flat washes is to keep the colors very thin, that is, to add plenty of water to them. If the color is too thick it will not flow readily, and it dries too quickly to make it possible to obtain a flat and uniform wash. In cases where a deep flat wash is required, it may be easily obtained by giving the drawing several washes, one on the other, of course allowing each coat of color to dry before another is added. The colors used should be of the best quality. It is absolutely impossible to obtain a satisfactory result with inferior colors, no matter how skillfully they may be applied Those imported and manufactured by either of the firms, Newton & Windsor, Rowney or Reeves, are among the best.

In conclusion, we would urge the would-be draughtsman to make a systematic study of the subjects above mentioned, to practice regularly and constantly, and to acquaint himself with the technical details of the art he proposes devoting himself to. If architecture, then the construction of the various details of building, making himself perfectly familiar with the various technical terms, and obtaining at least some considerable knowledge of the orders of architecture. Remember that absolute accuracy is not only essential to a good drawing, but that an error or a mistake of any kind in the plans may be productive of the most serious consequences when the building is actually erected. A case in point is within our recollection. A draughtsman, in drawing out the plans for a certain building, omitted to show a window opening onto a light shaft. The plan from which the omission was made was of the second story and four upper stories, which were all alike. There were six houses being erected from the same designs, so that the simple omission of four lines from the drawing meant the omission of thirty windows altogether. The joinery used in the houses was supplied by a firm under contract for the whole quantity, and they of course declined to supply these windows, as they were not shown on the plans, and they had not therefore allowed for them in their estimate. A clause in the contract to the effect that every article of joinery necessary to properly complete the buildings should be supplied whether shown upon the plans or not, caused the owner to affirm that these particular windows were obviously necessary. Upon this, however, they could not agree, and litigation was the result, all caused by a small act of carelessness on the part of the draughtsman. Probably the best way to avoid errors is to carefully go over the drawings, after they are finished, in the most minute manner, and to check every detail and item. If the specifications are then prepared without reference to the finished drawings, and the two are afterwards compared, errors will be avoided as far as possible. ARTUS.

A Popular Journal.

THAT this journal is extensively read, and its contents duly criticised, is proven by the fact that an error, which was shown in one of our plans not long since, has been the subject matter of twenty-nine communications received at this office in regard to the blunder. Who will say that this is not the best advertising medium on this coast, when even a little error is so extensively noticed. Terms for advertising are so reasonable that our pages should be filled with notices from those having wares in the building line to dispose of.

BOUND VOLUMES OF 1886 ARE NOW READY. PRICE $2.50 EACH, POST-PAID.

DESIGN FOR A COUNTRY HOME.

Design for a Country Home.

WE are indebted to Messrs. S. and J. C. Newsom for the above elevation and the accompanying plan on opposite page. The arrangement is one that recommends itself to the lovers of a well-planned house. The elevation will suit those who desire a very showy house, without appearing too gorgeous.

Downing a Redwood.

NOW she takes it! Keep clear!" shouted Jim Lake, a muscular Sonoma "bull-whacker," in warning to the group of woodchoppers in the redwood forest at the northern end of the San Francisco and North Pacific Railroad, as the death-rattle of a California giant was heard. After hours of under-cutting and cross-sawing, they had cut through all but one and a half inches of the monstrous trunk, fifteen feet in diameter, and the cracking of the wood announced that the monarch was about to fall. Its lofty top, 275 feet above the ground, wavered a moment, and bowed gracefully and with a stately air, like a grand lady courtesying; then gathering impetus as it left the perpendicular, the great trunk rushed to the earth with terrific force. Keeping to the course marked out for it by the woodsmen, it tore the foliage from the protruding limbs, filled the air with flying branches and bits of bark, swept away every article in its path, and descending with tremendous force, struck the ground with a thud to be heard a mile. Clouds of dust shot up sixty feet; the earth shook and rumbled. The prostrate giant trembled once from top to stump, and all was over. It was a death-scene of awful grandeur and solemnity. Even the lumbermen, accustomed to the sight daily, dropped their sledges, double-bitted axes, mauls, goads and water buckets, and gazed in silence at the overthrow of the many-centuried monarch.

SOMETIMES an elevator brings a man nearer heaven than he wants to go.

Just Published, "Modern Architectural Practice."

THE initial architectural publication for 1887 has been received. It is from the well-known architectural book publisher, W. T. Comstock. The full title of the book is "Modern Architectural Practice," No. 1. A large country house. Bruce Price, architect.

In this work the author presents the full plans and details for a large building to be erected in San Mateo County, Cal. The general design is calculated to represent the "American style" of architecture. The author tersely remarks in the preface: "In handling the problem no style has been followed, for no style could be attempted in its purity. It would answer equally the assertion that 'it is French in its feeling,' 'Romanesque in its handling,' or 'Dutch in its mass,' still it is an American house, planned for American uses, and built of American materials. Its disposition of rooms is new to any style of the past, yet the wants of the cliant have been fully met, and upon them it has been built."

The book is handsomely bound, printed on heavy paper, and contains twenty-four 12x15 plates, and full specifications illustrated by wood-cuts and diagrams, showing special features of construction; containing a large variety of doors, windows, and finish, wainscoting, paneled ceilings, staircases, balustrades, mantels, sideboard, pantry, bath-room, and laundry fittings, and other interior details; also exterior details, giving full and complete drawings of stone work, carved work, porches, main entrance, entrance doors, outlines of mouldings, gables, bay-windows, porte cochére, and all other details necessary for a full and complete understanding of the work. The price of the work has been placed at $5.00, upon receipt of which we will forward a copy to any part of the country.

SET out your work with accuracy, and the time you will save will bring profit as well as credit to your employer and yourself.

NEW ENGRAVINGS—ORIGINAL ARTICLES—EACH SUCCESSIVE NO. WILL EXCEL.

COUNTRY
BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. We have been busy the past two months in perfecting arrangements by which we can secure information from every portion of the Pacific slope. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

For eight years there has appeared in this journal, building news from every portion of the country. But in its condensed form it did not attract the attention it deserved. We begin the New Year by making a specialty of the item mentioned.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on;" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interests of Architects, Contractors, and Material Men.

Alameda.

A new building will be erected on Park Street by Mr. Boehmer.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

W. Augistine is erecting a cottage on corner of Pacific Avenue and Chapin Street.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

A fine business block will shortly be erected on Park Street near the S. P. R. R.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

Mrs. Gill is having built a $2,500 house on Buena Vista Avenue.

Artisan, for $5.00.
Builders' Guide, for $2.00.

Robert Harvey is about commencing to erect a $3,500 building on San Jose Avenue.

Album of Mantels, for $8.00.
History of Architecture, for $15.00.

Alvarado.

Large additions to the sugar factory are proposed.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Anaheim.

Albrecht & Co. are erecting a brick building for Mr. Langenberger.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

Aptos.

The saw-mill at this place was lately destroyed by fire. Mr. Hihn, with his accustomed energy, has started to rebuild.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

Crescent City.

Plans have been adopted for a $5,000 school-house.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Colton.

Plans are being prepared for a new opera house, by Mr. Grey, formerly of San Francisco.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Clayton.

Geo. D. Nagle is erecting large additions to the winery of the Mt. Diablo Vineyard Improvement Co.

Woodward's Farm Homes, for $1.00.
Woodward's Graperies, for $1.00.

Davisville.

Leggett & Drummond are considering plans for an iron warehouse for storage purposes.

Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.

A Grangers' store and bank building is also on the tapis.

Painter, Gilder, and Varnisher, for $1.50.
Architects' Companion, for $2.50.

Duncan's Mills.

Lumber mills around this neighborhood are shut down for the season.

Hand Railing and Stair Casing, for $1.50.
Drawing for Carpenters, for $1.75.

Fresno.

M. H. White is erecting a handsome building.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

It is rumored that T. E. Hughes, *et al.*, are taking active measures in regard to the erection of a $75,000 hotel building.

Artisan, for $5.00.
Builders' Guide, for $2.00.

Highland Springs.

On the tapis, the erection of a $5,000 hotel.

Drawing for Bricklayers, for $1.50.
" " Cabinet Makers, for $1.50.

Los Angeles.

A large bank building is being erected, at a cost of $70,000. S. and J. C. Newsom are the architects.

Drawing for Stone Masons, for $1.50.
Building Construction, for $1.25.

On January 7 a contract was let for a four-story building. Owner, Wm. Vickery; architect, R. B. Young. Cost, about $35,000.

Album of Mantels, for $8.00.
History of Architecture, for $15.00.

Los Gatos.

Architect Clinch, of San Francisco, has just let a contract to Butler & McGowan for a three-story brick building for the Jesuit Fathers. Cost will be about $35,000.

Cutting Tools, for $1.50.
Cummings' Details, for $5.00.

Madera.

C. S. Peck has signed a contract to erect a brick building, to cost $6,000, for Mr. Schmidt.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

Monrovia.

Twenty houses are in course of construction in this town. A street railway will shortly be commenced. Monrovia is in the neighborhood of Los Angeles.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

New Lighthouse

Will be built in Suisun Bay, near junction of Sacramento and San Joaquin Rivers.

WE WANT A BUILDING CORRESPONDENT IN EVERY TOWN IN THE STATE.

San Bernardino.

Plans are being prepared for a hotel in East San Bernardino Valley.

Steel Square Problems, for $1.00.
Work-Shop Companion, for 35c.

The contract for building a large hotel in San Bernardino has been let to Gray & Keefer, for $61,500.

Bound Volume California Architect, for $2.00.
Barn Plans, for $1.50.

So great is the building activity in Ontario that the light of the moon has been utilized to further building interests.

Every Man His Own Mechanic, for $3.50.
Tredgold's Carpentry, for $7.50.

Santa Cruz.

A new hotel to cost about $10,000 will shortly be erected here. J. S. Green is to be the owner.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

San Jose.

James Phelan is contemplating the erection of a new building to be used as a theater.

Builders' Construction (three volumes, very fine), for $14.00.
People's Cyclopedia (three large volumes), for $20.00.

Spencer & Rich are erecting, on the corner of Marker and San Augustine Streets, a two-story and basement brick building. Architects are J. Lenzen & Son, H. C. Skow being the contractor. Cost, about $6,000.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

The same architects and contractor are erecting, for Luis A. Arguello, a two-story brick building on First Street. Cost, $11,500.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

A one-story cottage is being built on Tenth Street. Owner, W. Taylor; architects, J. Lenzen & Son; contractor, W. Taylor. Cost, $1,500.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Santa Rosa.

Contract for the new County Hospital has been let to Carle & Croly, of Sacramento. It will cost about $10,000.

Mural Painting (new), for $3.00.
Home Hand-Book, for $10.00.

San Rafael.

J. Rosenthal is having a two-story frame dwelling erected, at a cost of $10,000. S. and J. C. Newsom are the architects, and Quink & Bignama, contractors.

Ruskin's Works (four volumes), for $6.00.
Industrial Drawing for Carpenters, for $2.00.

San Diego.

A large brick building for manufacturing purposes is being erected by Frank Kimball.

Limes, Cements, and Mortars, for $4.00.
Wonders of Art, for $1.25.

Seattle.

T. W. Bennett will shortly erect a large building for storage purposes.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

J. M. Colman will also erect a similar building to the above.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

Visalia.

A new hotel will in a short time be built at this place.

Architecture and Building, for $3.50.
American Cottage Building, for $3.50.

SAN FRANCISCO.

C

California, bet. Baker and Lyon. Two two-story frames.
O.—G. C. and Annie Letcher.
A.—Charles Geddes.
C.—Gray & Stover.
$8,500.

Church, cor. Twenty-ninth. Additions.
O.—Bowers.
$600.

California, Nos. 1324–1328. Improvements.
O.—W. Dutton.
C.—W. H. Wharff.
$750.

Cal fornia, nr. Fillmore. Two-story frame.
O.—A. A. Bennett.
A.—A. A. Bennett.
C.—I. A. Boynton.
$4,500.

D

Dolores, cor. Twenty-eighth Two-story frame.
O. and B.—Blackfeld.
$2,500.

Dolores, cor. Duncan. One-story frame.
O. and B.—Comerford.
$1,000.

E

Eddy, cor. Steiner. Two-story frame.
O.—Kennedy.
A.—M. Balezynski.
C.—Smith.
$9,000.

F

Fremont, nr. Mission. Four-story and basement brick.
O.—M. P. Jones.
A.—Wright & Sanders.
Mason—J. G. Lei ert.
Carpenter—T. H. Day.
$60,000.

Francisco, cor. Taylor. Three one-story frames.
O. and B.—Fontana & Co.
$8,000.

Fremont, nr. Mission. Four-story and basement brick.
O.—Mrs. — Joseph.
A.—Wright & Sanders.
Mason—J. G. Leibert.
Carpenter—T. H. Day.
$30,000.

Folsom, No. 1039. Additions.
O.—W. Dorgan.
A —A. J. Barnett.
C.—C. S. Carter.
$4,000.

Fair Oaks, bet. Twenty-first and Twenty-second. Additions.
O.—J. Bolger.
A.—T. J. Welsh.
C.—Doyle & Son.
$2,000.

G

Guerrero, cor. Alvarado. Two-story frame.
O.—John Bell.
C.—Geo. Houston.
$2,000.

Guerrero, cor. Sixteenth. Alterations.
O.—Pacific Improvement Association.
A.—J. Marquis.
C.—D. Perry.
$4,500.

Geary, cor. Martha Place. Four-story brick.
O.—Chas. Schroth.
A.—J. Marquis.
Mason—G. Watterson.
Carpenter—J. Wilcox.
$60,000.

Guerrero, cor. Alvarado. Two-story frame.
O.—Fogarty.
C.—McCormack.
$1,700.

Green, No. 2112. Improvements.
O.—E. Fretwell.
C.—W. H. Wharff.
$2,500.

H

Harrison, cor. Fifth. Two-story frame.
O.—A. Trobock.
A.—W. P. Moore.
C.—L. Helbing.
$2,300.

Haight, nr. Broderick. Two-story frame.
O.—H. J. Shillcock.
C.—W. F. Lewis.
$3,500.

L

Larkin, cor. Vallejo. Two-story frame.
O.—J. Gandolfo.
A.—Townsend & Wyneken.
C.—N. B. Ritchie.
$3,800.

L, bet. Seventh and Eighth aves., S. S. F. Frame building.
O.—P. Riordan.
A.—W. H. Bayless.
C.—M. Murray.
$1,500.

M

Mission, bet. Tenth and Eleventh. Three-st ry frame.
O.—H. C. Patridge.
A.—R. C. Ball.
C.—J. J. Dunn.
$6,000.

Mason, cor. O'Farrell. Additions.
O.—A. McCartney.
A.—H. T. Bestor.
$1,800.

Mission, bet. Nineteenth and Twentieth. Two-story frame.
O.—D. P. Smith.
A.—J. T. Kidd.
C.—J. W. Meyer.
$5,500.

Market, cor. Fremont. Five-story and basement brick.
O.—S. Lachman.
A.—Wright & Sanders.
Carpenter—J. Grant.
Masons—Riley & Loane.
$180,000.

Market, nr. Eighth. Repairs.
O. and B.—Anderson Bros.
$500.

Mission, cor. Seventh. Additions.
O.—J. Easton.
C.—J. Ross.
$700.

O

O'Farrell, bet. Powell & Stockton. Brick building.
Owners—G. Walter, J. H. Roberts, A. Schroepfer.
A.—A. Schroepfer.
Masons—Wilson & Young.
$5,000.

Oak, nr. Fillmore. Two-story frame.
O.—N. Wynne.
A.—J. J. Clark.
C.—J. G. Adams.
$5,500.

O'Farrell, bet. Powell and Stockton. Brick building.
O.—A. Ludwig.
A.—H. D. Mitchell.
C.—C. Orr.
$2,000.

P

Page, bet. Pierce and Scott. Two-story frame.
O.—F. Behre.
A.—B. E. Henriksen.
C.—Harmon & Trotter.
$2,000.

Post, bet. Gough and Octavia. Two-story frame.
O.—Mrs. J. B. Elwert.
A.—W. Mooser.
C.—J. A. Ehmann.
$6,000.

Pine, nr. Fillmore. Two-story frame.
O.—J. Paillasson.
A.—Huerne & Everett.
C.—Moore Bros.
$5,000.

Post, nr. Devisadero. One-story and basement frame.
O.—A. Klain.
C.—F. Roettger.
$1,800.

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S

Second, No. 531. Two-story frame.
O.—Mrs. M. Handy.
C.—W. E. B. Stiles.
$2,800.

Sutter, bet. Dupont and Stockton. Three-story and basement brick.
O.—C. R. Bishop.
A.—W. F. Smith.
Mason—C. Worrell.
Carpenter—W. M. Fletcher.
$35,000.

Second, nr. Folsom. Four-story and basement brick.
O.—Wieland.
A.—W. Winterhalter.
C.—J. Haaf.
$100,000.

Sanchez, bet. Twenty-ninth and Valencia. One-story frame.
O.—Anderson & Co.
C.—J. E. Loomer.
$1,600.

Santa Clara, cor. Mississippi. One-story frame.
O.—Mr. Kelly.
$1,800.

Steiner, nr. Eddy. Two-story frame.
O.—P. McSherry.
C.—Chas. Teaft.
$4,200.

T

Twelfth, bet. Market and Mission. Frame church. (German Cong.)
A.— Kenitzer.
C.—F. W. Kern.
$8,000.

Townsend, bet. Fourth and Fifth. Foundations (concrete) for three brick warehouses.
O.—Mrs. M. F. S. Hopkins.
A.—O. G. Moore.
C.—C. A. Warren.
$3,000.

Twenty-first, No. 812. Three-story frame.
O. and B.—F. Klatt.
$7,500.

Twenty-sixth, bet. Valencia and San Jose ave. Two two-story frames
O. and B.— Nowes.
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Twenty-fourth, cor. Church. Two-story frame.
O. and B.—F. Kleebauer.
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O. and B.— Klahn.
$2,000.

Twenty-seventh, cor Church. Two-story frame.
A.—J. J. Crooks.
C.—Eagan.
$6,000.

V

Van Ness, bet. Sutter and Fern ave. Five two-story frames.
O.—I. Kohn.
A.—P. R. Schmidt.
C.—P. Crichton.
$37,000.

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In selecting house decorations see that the effect is not destroyed by the surroundings; for instance, when the carpet is faded and the furniture shows many years of faithful service, by no means indulge in bright colors, plush and satin chair scarfs, elaborately embroidered table coverings. Where it is necessary to conceal defects, subdued colors have a more pleasing result.

GRIMSHAW ON SAWS, PRICE - - - $4.00.

Editor Building: I should like to have your opinion as to the respective merits of thick and thin mortar joints in brick-work. C. H. B.

The object of mortar in brick walls is to form an adhesive substance between the bricks, and it has little, if any, function beyond. The average bricks of which walls are composed are certainly harder than the hardest mortar, so that the object would seem to be to keep the joints as thin as possible for this reason alone. The wider the bed joints the greater will be the settlement of the building. For these reasons the mortar joints should all be kept as thin as is consistent with perfect adhesion between the bricks, and, without doubt, should be thinner than it is now usual to form them. The side joints will be regulated in size by the dimensions of the bricks. The quality of the mortar in a brick wall is of much more importance than would seem to be generally understood. This was well illustrated in an accident which happened recently in this city. A flour warehouse fell to the ground by reason of the bad mortar used in its construction. The flour barrels were loosely packed in such a manner as to throw considerable thrust upon the walls, and, the mortar being of very bad quality, the bricks were separated, with the result of bringing down the building.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

One thousand brick, closely stacked, occupy about fifty-six cubic feet.

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Rough Pine, merchantable to 40 ft. inclusive	$20 00
" " " 41 to 50 " "	21 00
" " " 51 to 60 " "	22 00
" " " 61 to 70 " "	23 00
" " " 1x3 and 1x4, Fencing	21 00
" " 1x3, 1x4, and 1x6, Fencing, odd lengths	19 00
" " second quality	16 00
" " selected	24 00
" " c ear except for Flooring	29 00
" " " Flooring less than Dressed Flooring	1 00
Fire Wood	9 00
Dressed Pine, Flooring, 1x6, No. 1	32 00
" " " other sizes, No. 1	34 00
" " " all " No. 2	27 00
" " Stepping, No. 1	40 00
" " " No. 2	30 00
Ship Timber and Plank, rough, selected,	25 00
" " " selected, planed, 1 side	27 00
" " " " " 2 " average, 40 ft.	29 50
" " " " " 3 "	32 00
" " " " " 4 "	34 00
Deck Plank, rough	29 50
" " dressed average 35 ft	34 00
Pickets, rough, B. M	19 00
Furring, 1x2, per lineal ft	0⅞
Lath, 1¼ 4 ft., per M	3 50
" 1½ 4 ft., "	4 00
Rough dunnage, delivered, per M	20 00
Spruce dressed shelving, to 14 inches, per M	35 00
" " ½ inch " " "	35 00
" " wider, per M	40 00

REDWOOD.

	per M ft.
Rough Redwood, merchantable	$20 00
" " second quality	16 00
" " selected	24 00
" " clear	33 00
Dressed " common surface	22 00
" " ½-inch surface	28 50
" " No. 1	33 00
" " No. 2	26 00
" " T. & G., 1x6, 12 ft. and over, No. 1	30 00
" " " other sizes, No. 1	30 00
" " " 7 to 11 No. 1	26 00
" " " under 7 No. 1	23 00
" " Rustic, No. 1	33 00
" " " No. 2	28 00
" " T. & G. beaded, 12 ft. and over, No. 1	33 00
" " " " other sizes No. 1	33 00
" " " " 7 to 11, No. 1	26 00
" " " " under 7, No. 1	23 00
" " Siding, ½ inch	23 50
Pickets (fancy), 4 feet, B. M	25 00
" (rough pointed) "	17 00
" (" square) "	15 00
Battens, ¾x3, per lineal ft	0¾
Shingles, per M	2 00
" fancy, per M	3 75
Posts, split	13
Shakes, split, per M	9 00
" sawed "	11 00

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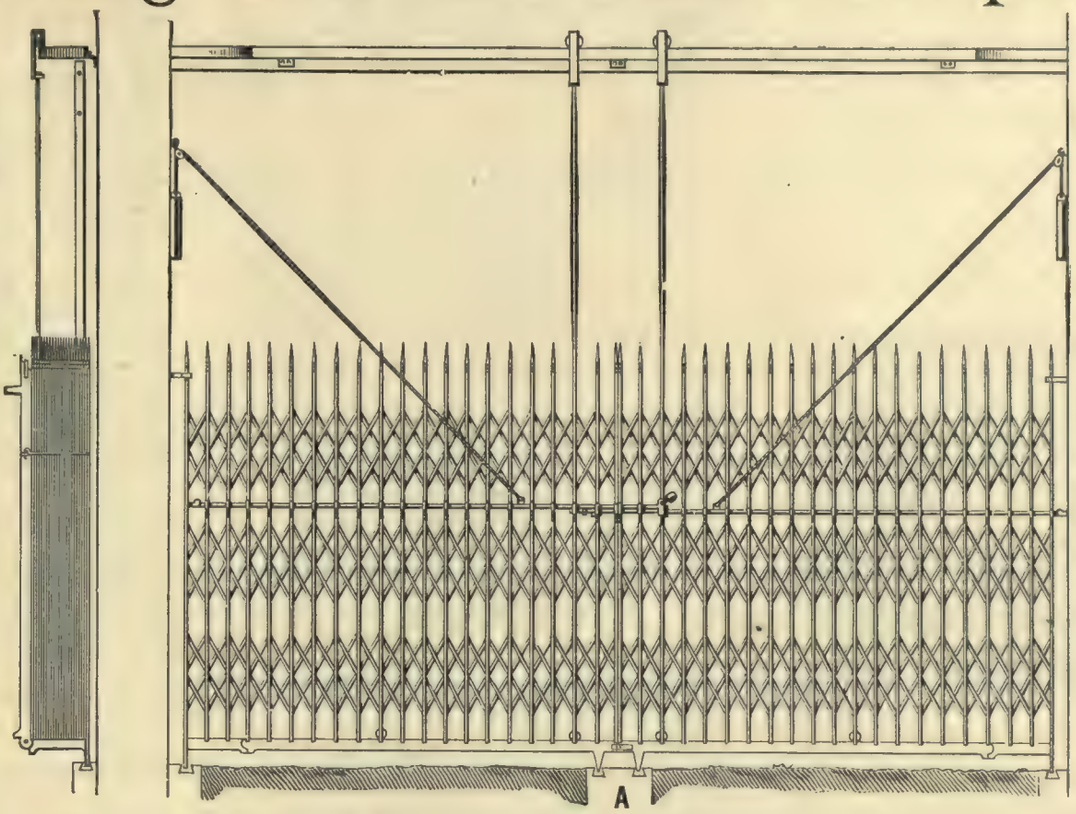

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WITH ❋ THE ❋ IRON ❋ FOLDING ❋ GATES ❋ AND ❋ GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

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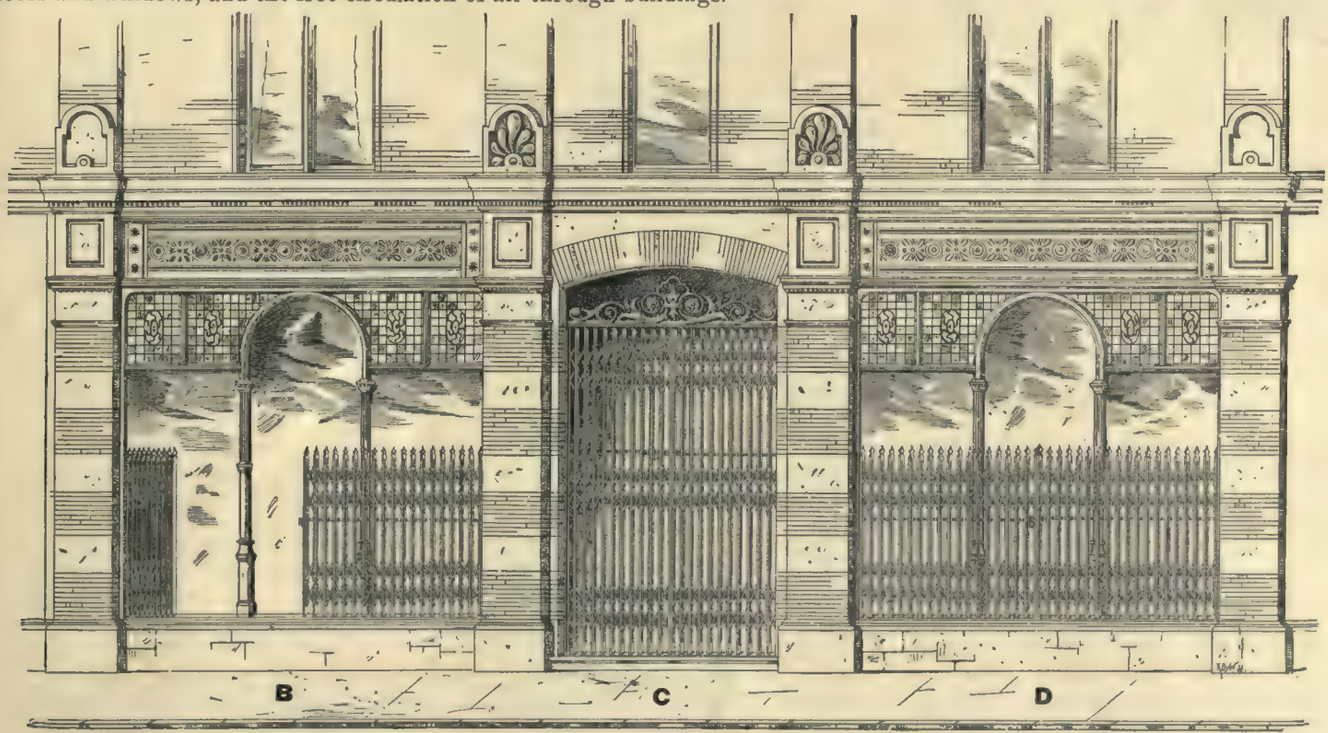

DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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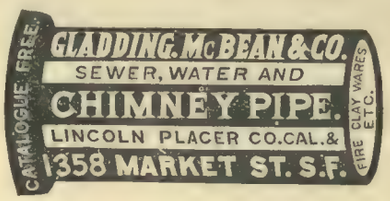

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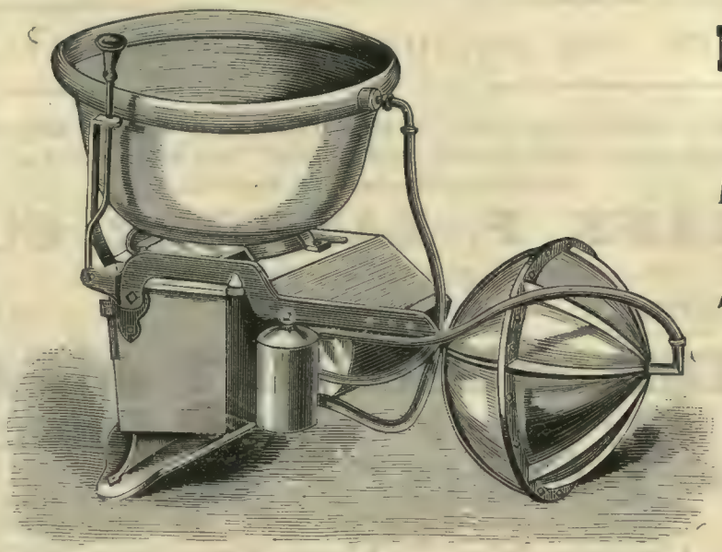
A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.



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Persons Engaged in Sanitary Enterprises,

ARCHITECTS, CONTRACTORS AND BUILDERS,

Are especially invited to examine the practical workings of

Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

It turns *every house* into a SANITARIUM, and is an assurance to those who trust it, that neither *sewer gas* nor *noxious vapors* that invade our houses freighted with *disease* and *death*, shall enter. It is the invention of a Californian, and an Oakland enterprise.

Its merits surpass description, but a few prominent ones are mentioned below.

It is the only Self-Acting, Tight-Seal Water Closet in the World! *It has no "overflow,"* rendering it a positive seal against *sewer gas* and reeking, noxious, poisonous vapors.

It is Cleanly, because it always presents a clean owl. It rinses the bowl before and after each and very operation.

It is Self-Discharging. No notice to "pull the lever," "let on the water," etc., is necessary or proper.

A house in which it is in operation is free from the stench, the smell, the unhealthfulness of one in which other modern closets are in use.

It is Economical. It measures the water accurately, and uses, without variation, a similar amount at each and every operation. Not a drop but is utilized, thus dispensing with the superfluous amount that escapes unused by other closets, in order that their cumbrous and inefficient machinery may indifferently execute what has been ill conceived.

It is Scientific. Its action is governed by principle, and under all degrees of pressure it works the same. A tank fifteen feet high obtains as ready and complete a response as one a thousand feet high.

It may be attached to a "main" with perfect impunity. No back suction, however strong, can draw from its seal a vestige of gas or a bubble of air. It holds in its bowl water as pure as when it left its font.

It is not a "water seal," nor does it depend on "a weight" to effect its seal; but it derives its power from the supply-pipe, and combines it so as to fully accomplish this end.

Its simplicity, combining efficiency, renders the true aim of perfect mechanical contrivances. It will effect for the child all that the adult may desire in its use.

It is not high priced when compared with others. In the long run it is much cheaper. No "set-screws," "springs," "pans," or "pulls," to need repair or attention. Every article used in its construction is of the best material and designed to last.

As a sewer-flusher it is most effectual. In this regard it has no equal. "Obstructions in the sewer" are rendered improbable, as the sudden discharge of water carries everything before it.

It is a water-economizer. It is impossible for the water to escape it in a continuous stream, or for any length of time.

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CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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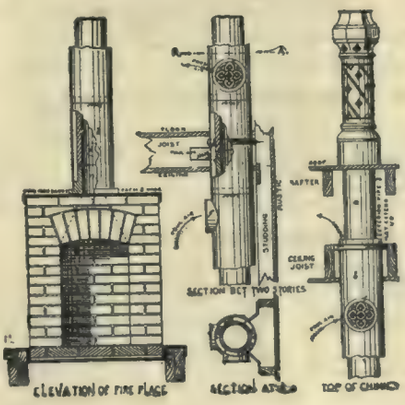

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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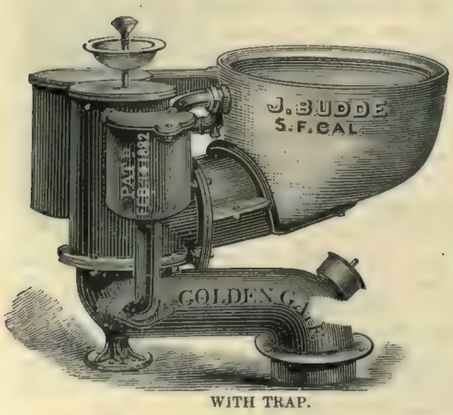

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WITH OFFSET.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

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3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.

Side View, Combination Hopper

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

PACIFIC PAN CLOSET.

This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval basin fastened to the cover by brass clamps and bolts. No breaking of putty joints required to renew a pan. The loosening of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

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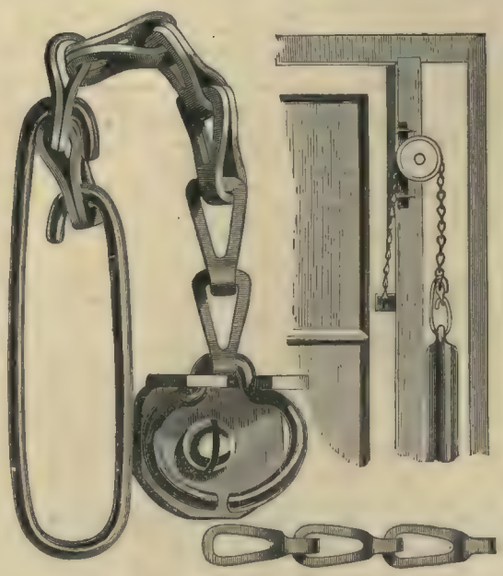

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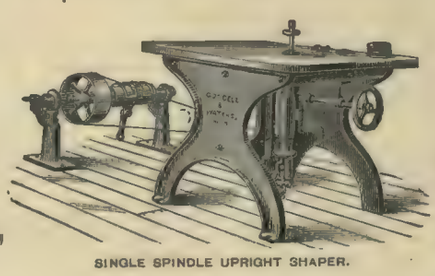

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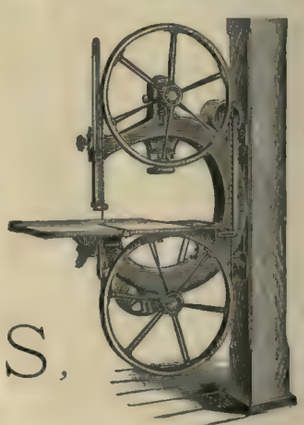

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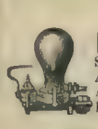
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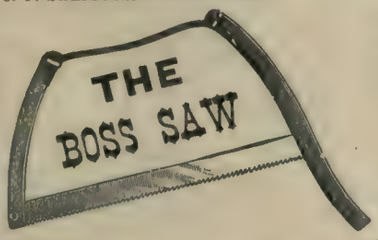

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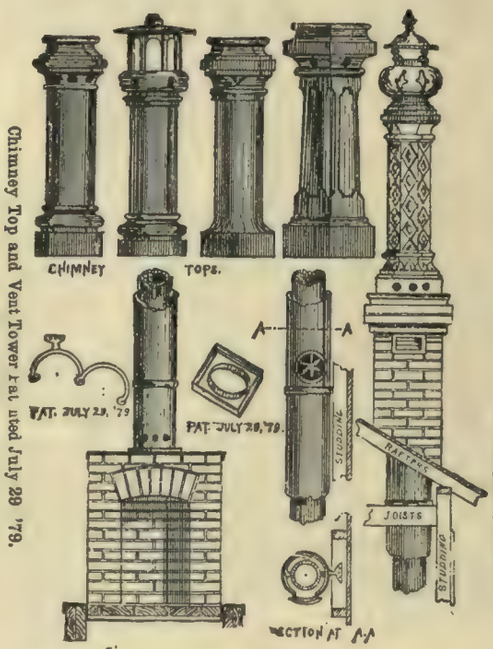

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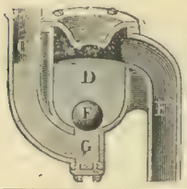

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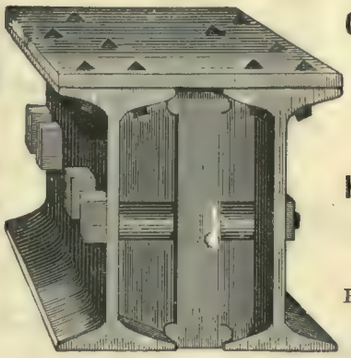

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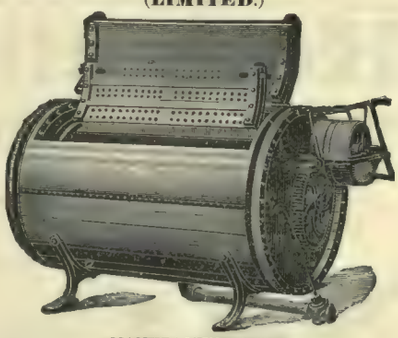

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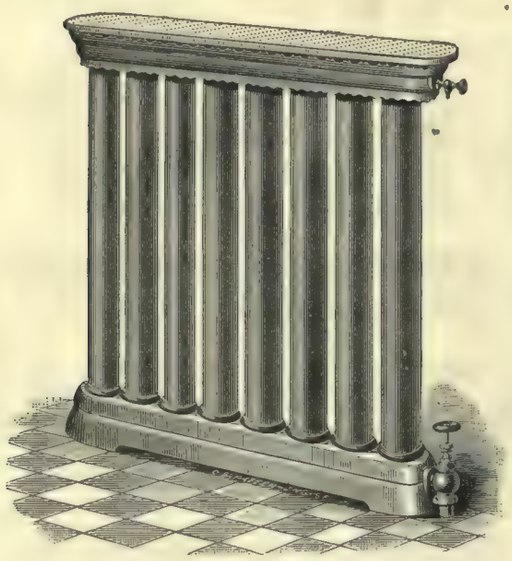

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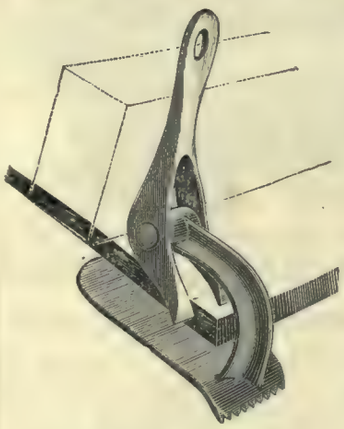

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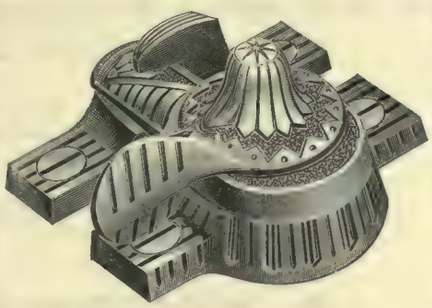

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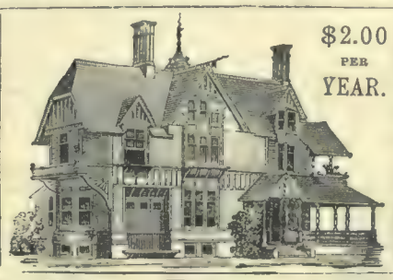

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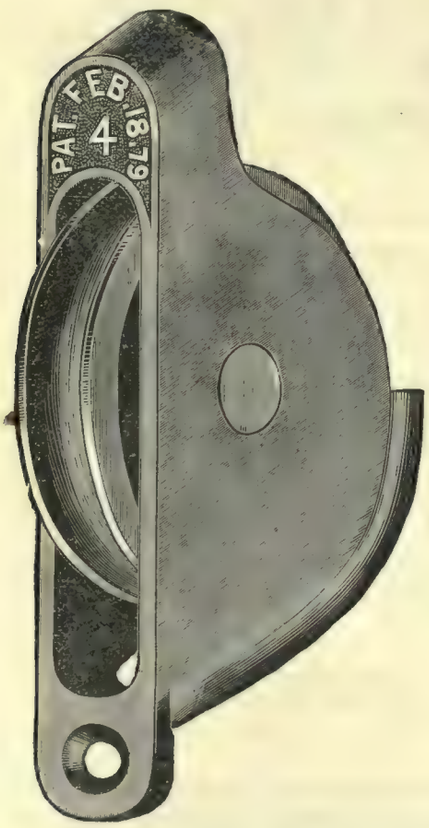

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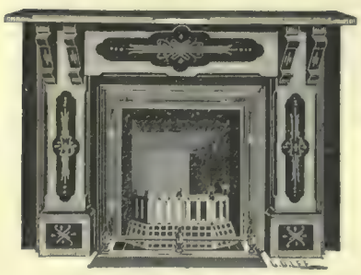

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Volume VIII | Number 2.

THE

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SAN FRANCISCO, CAL., FEBRUARY 15, 1887.

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Bound Volumes of the year 1886 are now ready. We will forward a copy to any address upon receipt of $2.50.

Mechanic's Lien Law, Twenty-five per cent, Thirty-five Days, Filing Contracts, etc.

THE law as it now is, among its many other maladroit provisions, makes it obligatory upon owners to retain in their hands twenty-five per cent of contract sum, for a period of thirty-five days from and after date of completion of buildings, or works of any kind, with the alternative that if said twenty-five per cent is not so retained, the owner remains liable to creditors of the contractor, who may have performed labor, or furnished materials, for the period of time named, although the owner may, in good faith and with honest intent and purpose, have paid the full sum of agreement to the contractor, at completion, or prior to the expiration of the thirty-five days. Consequently, if an owner presumes to act kindly, and pay promptly upon completion for the materials and labor performed for, furnished to, and enjoyed by him, he must assume all the risks and chances that may follow the payment of more than seventy-five per cent of the amount of contract price, prior to the expiration of the time provided in the statute—nearly one-tenth of a whole year.

The thirty-five-day clause serves no good purpose, nor is it just when made compulsory by legal enactment. Parties to any transaction may agree upon credit payments, but when a form of law is passed by the law-making powers, which proposes to *compel* men to give and accept credit, whether they desire to do so or not, is an invasion of personal and business rights—"special legislation" in that its operation selects a *special class of operators*, and subjects these to its *special penalties*. In addition to this, it imposes positive hardships and inconveniences, more or less upon all concerned, but especially upon those least able to bear them—sub-contractors—who, as a rule, need all they earn as soon as it is earned, and being kept out of any portion of their earnings for thirty-five, or any other number of days, is a deprivation both unjust and unfair. For while some of our building contractors have the means to liquidate all claims against them, promptly, the larger number are possessed of no bank accounts, and can only pay as they receive the contract payments; and as a further rule, stair-builders, plasters, plumbers, painters, and other sub-contractors, are made to share a part of this thirty-five days' requirement, and it is no wonder that "—— the Lien Law," is a common expression among those who are compelled to bear the burdens it imposes.

Hundreds of thousands of dollars are continually tied up by this process of law, which should be in circulation. But few owners are benefited by this delay in payments, as but infinitesimally few, if any, commence building improvements with any consideration, if even a knowledge of the fact that the law gives thirty-five days' credit on one-fourth of all contract sums they may enter into, exceeding $1,000. Nor is it likely that one in one thousand would commence building simply, or to any extent, by reason of this provision of law. Owners, as as a rule, see to it that their resources are, or will be equal in proper time to any undertaking ventured upon; and again, as a rule, payment at completion is convenient, and is preferred to having an unsettled balance hanging for thirty-five days. The few who would desire such accommodations, can always make the arrangements, without any necessity of forcing anyone to accept an undesired thing.

It gives no additional security. It is a bad law, in that it does not increase security to any creditor of a contractor, except that it operates as a period or specie of notification, in which creditors may be able to find out that certain contract money, as a whole, has been earned. If upon this is based the merits of the provision in question, it is a heavy imposition upon very many innocent parties, and is a legal circumlocution which could be greatly simplified by aiming directly at the evil sought to be remedied—that of dishonest men receiving the moneys of contracts, and failing to pay their debts. If creditors must be notified, if they are unable to keep the run of things, and cannot rely upon the integrity of their customers, the law otherwise provides—sensibly—a means of protection, *i. e.*, *notify the owner*, which done, the owner must reserve the amount of claim from the contract amount, or be responsible to the creditor in the amount due him. Thus every creditor, by taking timely precaution, can make himself safe, without the unfair, unjust, and iniquitous imposition of a penalty of thirty-five days' waiting for the payment of moneys due. "Delicacy" toward the man mistrusted is the common excuse for not pursuing the notification course. "Don't like to," for fear of offending—who? The man whose honesty or ability to pay is questioned. But this course would require personal action and individual responsibility; hence the promoters and advocates of the thirty-five days' rule shirk this plain, reasonable, and effective method, and skulk behind the bulwarks of ungenerous legal construction, to avoid a course that might, perchance, displease a customer who had been suspicioned as more dishonest than he proved to be, even if this shirking disposition has the effect of paralyzing the circulation of a few hundred thousand, or, perhaps, a million dollars.

Banks and loaners gain, borrowers lose. Loans, particularly

when money is tight and interests comparatively high, are charged to the borrower from the time the loan is granted, upon the theory that the amount of the loan is "set apart to the borrower," at the time the loan is passed upon. This, however, is not practically true in all cases, but when applied, operates as a grinding process upon the borrower, who receives no abatement of interest during the thirty five days, while the bank or loaner is at liberty to speculate with the moneys "placed to the credit of the borrower," for the full period of the law's delay, and thereby receives double interest on the amount.

Designed to head off rogues. Yes; at whose expense? Everybody concerned specially, and the entire building trade in general. The framers of the preposterous proposition failed to take in the whole situation, or to exercise intelligent comprehension as to effects, in that in the attempt to catch the dishonest, good men's rights are throttled. Legislation which proposes to withhold moneys due, rightfully belonging to other parties, is ill conceived and unjust. As a matter of course the law is general in application, and good men may be punished by its provisions, in that they may be deprived of moneys due them by right, if not by law. Of course, owners under contract with good, responsible men, may pay the contract moneys at pleasure, and assume the risks in doing so, but some are apt to utilize the legal privilege of holding onto their coin as long as the law allows, and this is more likely to be the case in large jobs, involving large sums, more than in those of moderate cost. Take, for instance, the Flood building, on Market Street, the contract of which for carpenters' work alone, amounts to over $100,000, and with the other contracts, a total of over $300,000, which leaves in the hands of the millionaire owner, under the thirty-five days' clause, of the contract amount earned at completion of the building, seventy-five or more thousand dollars of moneys *rightfully* due others, who may stand, hat in hand, and beg, while the owner may laugh and reply: Wait the law's appointed time, and I will pay you what you have already earned.

The intent of those who manipulated the framing of the present law, was, in the main, good, in that it proposed to provide better security for the payment of material men, sub-contractors, and workmen, with that other nicely worked in, objectionable joker, which makes those furnishing materials the *second* in class of preferred creditors, labor being *first*, leaving "sub-contractors" *third*, with no chance to get any pay, provided the balance due on contract amount at final settlement should be no more than sufficient to pay, *first*, workmen; *second*, material men. To claim fairness or equity in such an arrangment of law, is simply a ridiculous absurdity. In cases where there are shortages in the contract sum, imposing the only alternative—*pro ratio* settlement, every individual creditor is, by every consideration of right, entitled to a fair and just proportion of the money to be divided. But the last amendments to the law, those now in operation, were brought about through the efforts, and at the expense of those who were personally interested in classifying the "rank of each lien," as follows: *First, all persons performing manual labor; second, "persons furnishing materials;" third, "sub-contractors;"* poor fellows, how gratifying to them to stand by and see the wealthier class, the class abler to lose, step in and take all that is due them, if there is enough for that purpose, and if not enough, then to take all there is, and those who have furnished both material and labor, as "sub-contractors," be smiled at as unfortunates, because in the *third* class, yet as justly a creditor, and entitled to pay as much as those who receive all, or the larger portion of their claim.

The filing of contracts in the manner provided by the law, *to wit*, "prior to the commencement of the works," is mischievous, oppressive, and unjust, in that it jeopardizes and endangers the rights of owners and contractors, if not so filed in point of time, the Superior Courts holding that the plans and specifications are parts of the contract, and must also be filed, and sometimes to do this, the commencement must be delayed, which should not be rendered necessary by unwise, and impractical legislation. Yet if the filing is not done in time, the contract obligation is rendered void, and the owner must suffer, while all the purposes of filing might be as well accomplished, if filed within five (or ten) days after "commencement" was inserted for the arbitrary "before." The less than one dozen of those interested in the entire building business in San Francisco, who hold to the "before," use a very unfair argument in defense, by claiming that there are contractors who, in less than ten days after commencement of the work, can and do practice deceits and rascalities which would not be possible by an earlier filing. To admit this as true, it does not reflect much credit upon the intelligence or acumen of those who allow themselves to be caught by such (very few) disreputable fellows, for none but men without business standing or reputation would do any such rascally things; and if such persons can ply their games, and beat men of long business experience as material men, mill men, etc., those beaten ought to acknowledge themselves beaten, and keep quiet through shame at their own want of fair business smartness, rather than seek to impose onerous exactions upon ninety-seven-hundredths of those who are square and upright in all their transactions. There is a moral debasement running all through the law, as it is, which aims at protection to material men, etc., without any consideration of the rights and conveniences of honest mechanics, architects, or owners, for which reasons the law should be, and likely will be amended during the present session of the Legislature.

Contract Equities.

THE greater number, in fact nearly all building contracts, are made up from the owner's standpoint, and either the architect or attorney who formulates the obligation, is very careful to include and guard his client's every interest, with no special provisions protective of the party of the second part—the contractor. Building contracts, in a general sense, propose two things: First, that the contractor shall furnish and provide the material and labor required to carry out and fulfill the requirements of the plans and specifications, and, second, that the owner is to pay the agreed sum of contract for the proper execution of the work contemplated by, and defined in, the agreement.

If there were no contingencies involved or possible, a contract containing no more than is written above, would serve all practical purposes. But as it is, there are numerous possibilities that may arise during progress, in reference to quality of materials sought to be used, character of workmanship, delay in progress of the work, liabilities for debts created by the contractor, injury to person or property, and a variety of mishaps that the owner must be protected against. This is usually carefully attended to in preparing the contract, with scarce a word not intended to obligate the contractor. He must do this, and that, and the other thing, just in the way and manner prescribed by the plans and specifications, subject to penalties and charges for all neglects and failures that may occur; but it is seldom that contracts provide against hardships that may be imposed upon the contractor. Yet alike, the man who builds a building, using his skill and mechanical abilities and his means and credit to fulfill his agreement, and he who pays coin for such fulfillment, have rights and equities, which should be respected and properly treated in the one as much as the other.

The figuring and valuations leading to contracts, are usually based upon the plans and specifications, and if the plans do not show and fairly represent what may afterwards be *claimed* as the "true intent and meaning" thereof, the architect producing the plans being the "*conclusive*" authority upon the point of intent and meaning, the man most affected by the interpretation, is obliged to accept the rendering of the architect, and proceed accordingly, although doing so may add materially to the costs of the work, more than would be required if the plans were interpreted by disinterested parties. Plans *intended* to show, and *properly showing* true intent and meaning, may be widely differing propositions.

The specifications are another most important factor, and if so sufficiently clear and intelligently drawn as to cover all requirements, there can be no issues in regard to them; but if vague, and possible of more than one construction, they thereby become misleading; and if "conclusively" read and interpreted by the man who in haste put them together with omissions, or through incompetency failed to incorporate all that was wished for by the owner, the effect upon the contractor is the same, if bound to submit to an arbitrary rendering.

Again, under rulings of the courts in this State, if an owner neglects or refuses to make the progress payments, the contractor is not thereby relieved from progressing with the work, nor can he claim such non-payments as "prevention of contract" by the owner; but he must go on and complete before he can lien the property or commence legal proceedings to recover the contract moneys. Or an owner may not be prepared at the time called upon to make a payment, or he may hold the moneys due the contractor for speculative purposes; meanwhile the contractor must go on, nurse his credit, provide the necessary cash to pay workmen, and suffer many hardships, because the owner pleases, or is forced to delay payment.

Certainly these, and numerous other considerations, which space will not permit us to recite in this issue, should influence both architects and owner to a reasonable and just appreciation of the equities which should be incorporated in building contracts.

NOW IS THE TIME TO SUBSCRIBE FOR 1887, $2.00 PER ANNUM, IN ADVANCE.

San Francisco Chapter American Institute of Architects.

THE regular monthly meeting was held on the evening of the 4th inst., A. Pissis, president, presiding; B. E. Henricksen, Secretary. The committee appointed to interview the freeholders in reference to the Board of Public Works, reported that nothing had been accomplished in regard to the subject matter of its appointment.

James E. Wolfe, of committee to confer with a like committee from the Builders' Association, in reference to a uniform builders' contract, reported that the conference of committees had prepared and submitted a form of agreement, which was thought to adjust the rights and equities of both contracting parties, in lieu of the usual rather one-sided obligation generally used, in which the binding claims are more oppressive than generous to and upon the contractor. The new form presented for the consideration of the Chapter, suggested clauses of contract which, while compromising none of the owners' fair and reasonable rights, extended such reliefs and qualifications to the parties of the second part, as were consistent with fair dealings between man and man. A motion to accept and file was debated, the Chairman of the committee urging that the Chapter should express its approval or rejection, or suggest such amendments to the proposed form as would make it acceptable; but the sentiment prevailed that each architect should enjoy the right to draw up contracts to suit his own and his client's notions, and if the building clauses should be distasteful to the party of the second part, he could exercise the right to decline signature, leaving the architect the alternative of letting the work to some other party less scrupulous in regard to obligations which might, under certain conditions and circumstances, be made severely oppressive. The motion to receive and file, prevailed. Hence the time and labors of the joint committee resulted in waste, as far as concert of action by the Chapter was concerned.

A report was also received, through the same source, in reference to the amendments to the mechanic's lien law, stating that material changes and amendments have been formulated and forwarded to Sacramento for legislative action, with the hope that our law-makers, now assembled at the State Capitol for the ostensible purpose of legislating for the common weal, will oblige nine-tenths of their constituents engaged in the building business, by expunging many of the hardships and weaknesses of the law as it now exists, and substituting fairer and more equable and practical features, much better calculated to insure the purposes of the statute, without imposing any of the many—at present impractical and bad—conditions of the present law. Two of the most important changes modifies the present requirement that twenty-five per cent of the contract sum shall remain unpaid until thirty-five days from and after completion, to a delay of ten days; also, that instead of the contract being filed *before* the work is commenced, the time for filing to be extended to *within ten days after* commencement.

A paper was read by Mr. Gash, on the subject of ancient and modern plumbing, which, by order of the Chapter, is published in full in present issue of this journal.

Contractors Should Secure Fair Prices.

IN a short time building activities for the year 1887 will be fairly begun. Let each contractor resolve that he will maintain prices throughout the year. There is nothing so detrimental to the building trades as dishonorable competition. If you cannot figure to do good work, furnish good material, and pay reasonable wages, leave the job alone. If builders could combine and hold to fair prices, there would be a great deal of money made this year. Do not charge exorbitant prices for your work or owners will invest their capital in other ways. But figure so as to make a fair margin and enough to allow for extras. The common complaint among builders has been that such close figuring was done that legitimate contractors could not get enough work to keep their men going. Somebody gets beat. Is it the owner, the dealers in building material, or the contractor? We think in many cases it is the three. Why disgrace the profession in this way? Just as much work will be done if contracts are figured so as to leave a fair margin as there will be if the figures are so low that everybody will be beat. Turn over a new leaf this year and make some money.

JUDGE MILLER recently decided a case in the New York Court of Appeals, in which he held that if the owner of a building employs a mechanic to make repairs upon the same with no specific arrangement as to terms and conditions, such employment is in the nature of an independent contract, which imposes upon the employe the responsibility incurred by the negligence of himself or those who are aiding him.

Building Summary for February.

THE past month has been dull, as far as letting new contracts is concerned. Allowance must be made for the bad weather of the past few weeks. During the month just passed, the following summary will show the number of building engagements, and the value thereof:—

30 frame buildings, value	$126,000
5 brick " "	53,250
13 alterations and additions, value	25,200
48	$204,450

Why Are Bath and Water-Closet Combined?

MODERN houses located in cities, all contain a convenience the names of which are too numerous for mention. Perhaps the French No. 100 is as good as any. "Retiring Room," is a euphemism which will meet the same fate as the once delicate word "privy," which signified a private retiring room. Whatever its name, we all want it, but we want it perfect of its kind, able by its mechanical construction to remove from us without injury to our senses or our health those matters for which the body has no more need.

Most modern houses also contain another convenience, to some extent a necessity, but in great part a luxury. This consists of a tub, usually resembling a coffin in shape, and capable of containing enough hot or cold water to cover the body. At its simplest, a bath is a matter of cleanliness; but in its most developed condition it may be considered one of pleasurable sensations, and it is to be noted that unless the latter are received by the bather, he is much inclined to omit the bath.

No matter how carefully the privy, water-closet, retiring-room, or whatever else it is called, be constructed, the sense of smell will always find some offense there, and that of sight may at times have its delicacy offended. Since this is the case, the question may be asked, "Why is it usual to locate the water-closet in the bath-room? Why is the bather condemned to have his sense of smell offended by emanations which proceed from matters excreted either by his own body or those of other members of the family? What natural connection is there between a water-closet and a bath.

If the matter were simply one of smell, or even one of smell and sight combined, it might concern delicacy, but would have no grave import. But in fact it is a matter of health also. Even though the closet be as perfect as plumber and sanitary engineer can make it, it ought not to be combined with the bath-room because of the possibility of derangement, the probability of its use by members of the family suffering from sickness or disease, and the fact that it requires conditions different from those of the bath-room in order to maintain it perfect. For half the year, at least, through our long winters, the bath-room, if it is to be at once a source of health and of pleasure, requires to be heated, while the closet is decidedly better without any artificial heat. The former is, or ought to be, a place in which we spend some little time, while the latter is, or ought to be, for actual necessity only.

It is comfortable, no doubt, at times, to have the closet handy, and handy it can be, but should be accessible from the bath-room only by passing through a door. It should be so placed that access to it can be obtained without entering the bath-room, so that it can be used by one member of a family while another is bathing. Who among us does not know the misery of waiting until another has bathed, or the equal misery of bathing while the too handy necessity beside the bath is in use?

A great deal of modern delicacy is opposed both to convenience and health; but here is a matter in which convenience and health are consonant with delicacy, since the last is in the highest degree outraged by the usual arrangement; yet delicacy has not yet taken umbrage at the unholy union of privy with bath, nor have convenience or health brought in their batteries against it.—*W. N. Lockington, in Builder and Decorator.*

Something to Be Remembered.

SWING all doors to the right as you enter an apartment; they are thus handled conveniently.

It is better to oil floors than to paint them; a monthly rubbing will make them as good as new.

Soiled wall paper may be cleaned with dry bread carefully applied.

Leaks in sewer or plumbing pipes may be detected by injecting oil of peppermint into any portion of the apparatus.

If varnish or oil does not flow easily, add powdered camphor.

Shellac and borax boiled in water produces a good stain for floors.

BUILDING CORRESPONDENCE DESIRED FROM EVERY PORTION OF THE PACIFIC SLOPE.

Evolution in Architecture.

BY H. M. HUGUNIN.

THE gradations that have occurred in architecture from the earliest period to the present day are as marked as those that distinguish every other branch of art. The earliest dwellings of which we have any record were caves, or grottoes, which date to a time before ancient Troy was built. Some of these

ANTIQUE CAVERN-DWELLINGS

Are said to have recently existed in the Island of Sicily; and on the coast of Syria, not many years ago, was an extensive subterranean city, constructed like a beehive. Mud buildings were imitations of martin's nests, and Plutarch mentions cottages made of framework and mud. In the days of Abraham the nomadic tribes

DWELT IN TENTS,

Which they removed from place to place as the exigencies of their herds required, and in Arabia the wandering tribes still live in their primitive houses. These, with the caverns, the mud kraals of the Hottentots, and the wigwams of the American Indians, were the first habitations of man. In form the kraal and the home of the Esquimaux resemble each other. The one, however, is built of mud, and the other of ice.

Towns were originally built for protection, and erected like fortresses, and to them the herdsmen and tillers of the ground retired when endangered by their enemies.

Of the cities now existing, Damascus, in Syria, is the oldest, and to this day retains many of its early characteristics. The

WIGWAM OF THE AMERICAN INDIAN,

In all tribes, from the arrival of Columbus, in 1492, to the present era, displays its original features, although native skill has sometimes produced a few changes in the material. Poles united at the top, and so spread at the bottom as to encompass a few square feet of ground, form the accustomed frame. Upon this are fastened strips of bark or the skins of animals. The ground is the floor, on which a fire is built in the center, the chimney consisting merely of an opening left in the covering at the summit of the structure. Here the family reside until a scarcity of food or other social need compels them to remove to another locality.

ARCHITECTURE AMONG THE NORTH AMERICAN INDIANS.

A primitive home, easily taken to pieces, and carried about the country.

THE HOME IN THE FOREST.

When white men began to emigrate from the Old to the New World, the conveniences to which they had been accustomed, and the inconveniences of the Indian wigwam, led them to erect dwellings more suitable to their tastes and habits. Unlike the Indians, they were producers of various crops, and required more land or a homestead. Shelter was a prerequisite while they were clearing away the forest and preparing the soil for cultivation. Building materials and tools were scarce and of the rudest sort; and the home was made of branches of trees for framework, covered and floored with slabs or boards roughly hewn from fallen trees, with fireplaces and chimneys wrought with stones and clay. In other cases the trunks of trees were piled one upon another, leaving great intervals of space between, to be filled with strips of wood and mud. Roofs were constructed of rough slabs, boards, or bark. Windows were few and consisted, in the warmest season, principally of open spaces in the walls. In such dwellings were born and reared some of the noblest men and women whose names and deeds emblazon the records of this nation. The ancient cottages of Great Britain, were a trifle in advance of the first home in the wilderness, but still devoid of elegance in either construction or material. Low walls of stone, the doorways reaching nearly to the eaves, the diminutive, latticed window, and the roof thatched with straw, composed a dwelling both picturesque and comfortable for the rustic family. In such a residence was born the favorite Scottish poet, Robert Burns, near Ayr, in 1759.

THE LOG HOUSE.

The style of building common among the early settlers in the United States.

The house where George Stephenson, "the father of English railways," was born, at Wylam, England, shows a better class of rural cottages, but is lacking in every element of beauty, indicating the rude, practical rearing of the common laboring class. But the genius of Burns and of Stephenson have cast about these cottages haloes of glory that make them very attractive.

EARLY HOMES IN AMERICA.

In America, also, the early homes of many of our millionaires, statesmen, and warriors were no better than those in which the great and noble of Europe were first cradled. General Grant's birthplace on the banks of the Ohio; the log cabin of Abraham Lincoln, in the wilds of Macon County, Ill., in 1830; and the first home of Jay Gould, in Connecticut, are fair examples of the dwellings in which many of our most noted men have been reared.

But as the country gradually developed, and its varied resources were brought into requisition, one by one, the agriculturists became competent to erect better dwellings, and with the increase of commerce, merchants acquired more room and means for the exercise of their social tastes, and soon

RURAL AND METROPOLITAN MANSIONS

Began to beautify the natural surroundings of town and country. The plain stone or brick mansion, with its square windows and corners, its porticoes with massive columns, its general air of solidity and comfort, with here and there an ornamental gable, a bay-window, and graveled walks in the gardens, filled with beautiful flowers, succeeded to the uncouth wooden tenement of former years of frugality and privation.

VARIATIONS OF ARCHITECTURE.

Architecture, like the fashions in dress, has varied with each succeeding age, governed by the necessities of the people quite as much as by their tastes. In the old medieval days of knightly lords and fighting henchmen, arose the turreted strongholds, the impregnable castle, the moat, the drawbridge, and the guarded approach; and the edifices of that age, ruined and picturesque, now adorn many a landscape in the European States. Then rose the abbey and

THE BUTTRESSED CATHEDRAL,

With their quaint forms, their solid masonry, their gorgeous windows, their imposing towers, and their fretted interiors, dignified, solemn, and inspiring throughout.

Later ages brought more cheerful ideas of social and religious life. The knights, henchmen, and monks passed away. The new generation was more peaceful. Taste succeeded strife and spoil. Learning and the arts of peace became popular, and genius evolved new and more pleasing forms of architecture. Mansions grew less like castles and dungeons, cathedrals became churches, with more of light and love in their worship, and dignity and arrogance gave

place to gentler emotions. Sociability led to frequent exchanges of opinions; men cultivated those things in architecture and art that tended to elevate the mind, educate the taste, and develop comfort, convenience and elegance in the home.

THE PROGRESS OF IMPROVEMENT.

As the arts and sciences expanded, they were pressed into service for the improvement and adornment of the residence. Old-fashioned systems were discarded, and new materials and new arts were brought into requisition for the expression of the spirit of the age. The grate superseded the fireplace; the stove succeeded the grate; the furnace took the place of the stove; the steam-heater crowded out the furnace. The whale-oil lamp pushed the candle out of the family room; kerosene oil superseded whale-oil; coal-gas threw both oils out of the household economy, and electric lights drove gas-light into the background. So in architecture. Antediluvian granite and costly marble succeeded the limestone and brick in masonry, as common stone and brick had superseded wooden building material.

BIRTHPLACE OF ROBERT BURNS.
The old style cottage of the English peasantry, common in England in the past century.

SECURITY AND GRANDEUR

Were born of iron and terra-cotta; and with each recurring change in building and building material came increased elegance, convenience and luxury.

It is true that in this growth of architectural display the styles and rules of the old arts in building have been largely ignored and sacrificed, and new forms and features, unknown in other times, have been pressed into the service of

THE MODERN ARCHITECT AND BUILDER,

But in all this is manifested the changing spirit of the ages. Just as the arbitrary sentiments of the medieval times have passed away, and as the more liberal spirit of the nineteenth century now prevails, so the architecture of the past has succumbed to the more independent, versatile and attractive shapes assumed in the buildings of to-day. This is the epoch of

ORIGINAL AND ELABORATE ORNAMENTATION,

And the expansion of these grand architectural achievements is limited only by the capital of the individual who desires to build.

HOUSE IN WHICH JAY GOULD WAS BORN.
The form of dwelling which succeeded the log house in New England and the Middle States.

If we compare, for example, the beautiful villa of Alexander Pope, at Twickenham, England (exhibited in the poem on another page), with the magnificent family mansion of James C. Flood, at Menlo Park, in California, twenty miles from San Francisco, we shall be struck with the contrast they present.

PUBLIC EDIFICES.

We call attention to one more striking contrast in the architecture of the past and present. A representative of a past age is Independence Hall, Philadelphia, where the Centennial Congress held its sessions, and where the Declaration of Independence was adopted July 4, 1776. Venerable in its architecture and associations, it did honor to the social and political era in which it became famous, but, in contrast with the present Capitol of the United States, it shows the difference that a century has wrought in American architecture.

THE PRESENT CAPITOL AT WASHINGTON,

Critically considered, externally and internally, may not strictly be termed a grand architectural triumph, but in its vast proportions, imposing elevations and valuable art-works, it sheds luster upon the nation which it represents.

MODERN RESIDENCE.
The style of dwelling with mansard roof which was largely in fashion in the United States from 1860 to 1870.

In America, for several generations, architecture scarcely kept pace with the improvements in other branches of art throughout the country, and has been more especially developed within the past decade, so far as residences are concerned, than at any former period. For nearly a century there were but few radical changes, and these were improvements rather in securing convenience and comfort than elegance.

WIGWAM AND SHANTY.

It is true that the wigwam and the board shanty had their places, just as they have now, among the Indians and lumbermen of the wilderness, and in these, there was, of course, little or no improvement. Shelter was the only object sought, and everything among these primitive classes was sacrificed to secure comfort, even in its rudest form.

FIRST FARM HOUSES.

The pioneer settler on new lands felt the necessity of ample shelter for himself and his family, but beyond this his ambition did not extend until he had gained cultivated soil sufficient to yield him all the necessaries of life. Then the log house and the board shanty were supplanted by the neat, plain frame house, without paint, or cornice, or blind, or a single ornament in its construction. In time a cornice, shutters, and a coat of paint were added. As prosperity increased, a back kitchen was attached. Later on, a wing was projected on one side, with a small portico in front. Next year the growing family required another wing on the other side, with another portico.

THE HOUSE OF SIX GABLES.

Wealth continuing to accrue, a new site and a new house of larger size and more imposing appearance was planned and built. It had a stone cellar, or basement, was two stories high, built of wood, with high ceilings, and had long windows, green venetian blinds, a six gabled roof, dormer windows, and several entrances, reached by steps.

THE RURAL MANSION.

A few years later, a new location suggested the large square tenement, two stories high, with a substantial cellar, a center hall running through the building, large rooms, immense windows, a square hip roof with heavy cornice, and chimneys on every side, a covered piazza extending around three sides of the lower story, and venetian shutters to every window.

THE MANSARD VILLA.

A town residence becoming desirable, brick, stone, and mortar grew into a mansion of two stories and a basement, with bay-windows, or a swell front, a mansard roof, stone steps, and iron balusters, a fanciful porch at the front door, and a general air of gentility pervading the whole. Lawns, walks, and flower-vases distinguished the front yard.

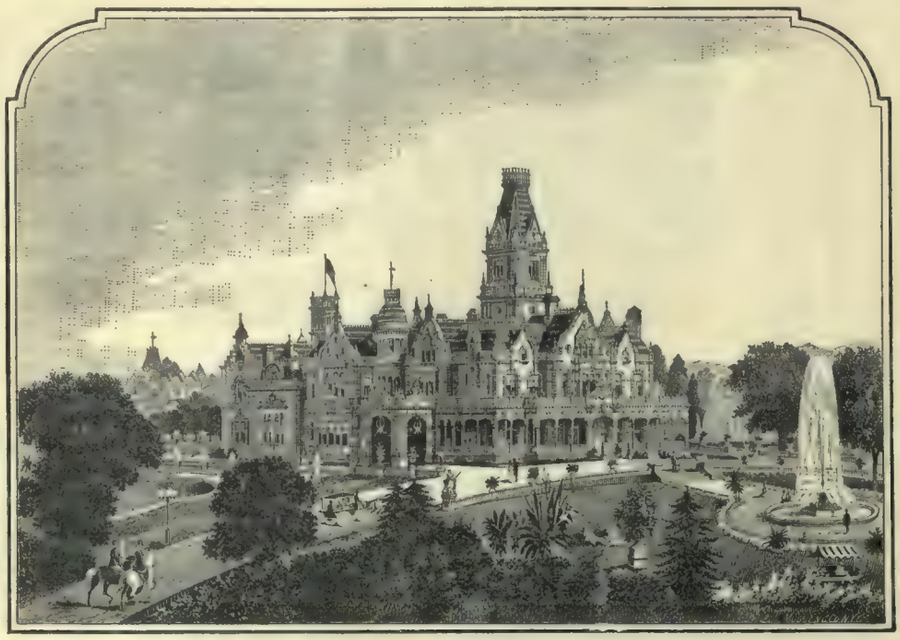
THE HOME OF A BUSINESS MAN.

Cultivated taste soon induced the wealthy citizen to invest in a more attractive residence. Fifty or a hundred thousand dollars were expended in a family mansion of more elaborate grandeur, the finest material, the most delicate ornamentation, and a degree of architectural beauty seldom realized, and of which the house-owner had seldom dreamed. To build it, marble, granite, freestone, iron, pressed brick, terra-cotta, and hard woods in great variety were brought into requisition; curves and oblique lines were diversified in its elevation, and a towering cupola embellished with the numerous artistic designs of modern architecture, topped the stately edifice.

THE PALACE OF THE CAPITALIST.

But the millionaire was not content with this, the most notable architectural triumph of his times. Money bought a noble situation; purchased the taste and skill of the best architects for its design, and ship-loads of the most costly stones that modern quarries, east or west, can produce, the best skilled builders, the choicest of everything, native and foreign, that can be used in its construction were ordered, until the expense mounted into a million or more of dollars. Of such is the mansion of James C. Flood, the work of which occupied several years, and it is undoubtedly one of the finest dwellings ever designed and erected in America. In it are combined all the elements that make architecture beautiful.

Architecture possesses the versatility that characterizes the kaleidoscope; it can produce a thousand varied charms, which depend solely upon the good taste of the designer and the skill of the artisan to perpetuate forever.



RESIDENCE OF J. C. FLOOD.

The summer home of Mr. J. C. Flood, at Menlo Park, near San Francisco, California, is of unique modern architecture, constructed from new and original designs, regardless of cost.

EGYPTIAN ARCHITECTURE.

The records of ancient architecture are replete with wonders and curiosities, and as history is often said to repeat itself, it would not be strange if modern innovations in this art should develop styles of private and public edifices just as unique and worthy of attention. The ancients built, undoubtedly, with a view to the perpetuity of their houses, and, therefore, endowed them not only with permanency, but also with a degree of ornamentation that still excites the admiration of the beholder. Some of these peculiar structures form a pleasant study.

The earliest Egyptian column resembled a stalk of the lotus-plant, capped by its calyx, and this flower possessed a powerful influence in forming the public taste of the past ages, when Egypt was in the height of its prosperity. But its early style of architectural ornament was heavy, and suggested no repose. Everything was built on a grand scale, suited only to the vigorous careers of her despots and conquerors. Her buildings were characterized by forests of columns, avenues of sphinxes, lions or rams, of colossal size. They also made large moles, with giant statues in front of them, with obelisks, gateways preceded by avenues, and detached from the moles.

The general plan of the great Egyptian temples is thus described by Devon: 1. An avenue of sphinxes. 2. Two colossal figures on each side of a gateway formed by immense towers of truncated pyramids and overhanging cornices. 3. This gateway led into a court full of columns, and chandeliers around the walls. 4. Passing across this, there are other courts, likewise full of columns, through gateways ornamented with colossal figures and obelisks. 5. In the center was the sanctuary, without light, consisting of a single excavated block. One, at the Temple of Latona, was seventy-one feet broad in front, carved out of one entire stone, and roofed by another.

The palace of the kings of Babylon, now in ruins, is a vast mass, measuring 2,100 feet each way. The walls are eighty feet thick, one within another and strengthened with buttresses.

The most astonishing collection of finished and costly architecture in the world, now a mass of splendid ruins, is at Baalbec, in the valley between Libanus and Anti-Libanus. The platform, on which was raised a temple to Baal, or the sun, contains stones thirty feet above the level, more than 60 feet long, 24 feet thick, and 16 broad. Each of these stones measures 23,000 cubic feet, and weighs 2,500 tons, squared, sculptured, and brought from distant quarries. Six of the columns are each 72 feet high, formed of three stones each 7 feet in diameter, with finished Corinthian capitals and friezes. It is believed to have been the work of the giants who formerly, as all authorities agree, dwelt in the mountains of Lebanon. Three stones still remain in a wall at Baalbec, 63 feet, 64 feet and 67 feet long. It is stated that the place was in existence in the days of Solomon, when it was called Baalath, but it was not built by him.

The modern Arab tent is said to exactly resemble that of three thousand years ago, and is made of black and brown cloth, the product of camels' or goats' hair. Arabian architecture advances slowly.

Pliny says that the Cyclops of Greece were the inventors of the fortifications of towns and towers, and from them is derived the Cyclopean style of architecture, which is noted for its extraordinary magnitude. The Cyclops were distinguished for their power, prowess, and mighty structures, and are believed to have been the giants referred to by the prophet Isaiah. The peculiarity of their

The Homes of England.

BY MRS. HEMANS.

THE stately Homes of England! How beautiful they stand.
Amidst their tall ancestral trees, o'er all the pleasant land;
The deer across their greensward bound
Through shade and sunny gleam,
And the swan glides past them with the sound of some rejoicing stream.

The merry Homes of England!
Around their hearths by night,
What gladsome looks of household love
Meet in the ruddy light.
There woman's voice flows forth in song,
Or childish tale is told,
Or lips move tunefully along
Some glorious page of old.

The blessed Homes of England! How softly on their bowers
Is laid the holy quietness that breathes from Sabbath hours!
Solemn, yet sweet, the church-bell's chime floats through their woods at morn; All other sounds, in that still time,
Of breeze and leaf are born.

The cottage Homes of England!
By thousands on her plains,
They are smiling o'er the silvery brooks
And round the hamlet-fanes.
Through glowing orchards forth they peep,
Each from its nook of leaves,
And fearless there the lowly sleep,
As the bird beneath their eaves.

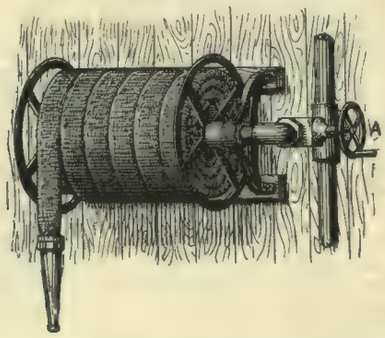
The free, fair Homes of England!
Long, long in hut and hall,
May hearts of native proof be reared
To guard each hallowed wall!
And green forever be the groves, and bright the flowery sod,
Where first the child's glad spirit loves its country and its God.

style was the piling up of immense blocks, without cement. Tyryns, now in ruins, is mentioned by Homer as a well-walled city, and was undoubtedly the work of Cyclops, as was, also, the ancient city of Mycenæ. The Gate of the Lions, at the ruins of the latter, was built by the Cyclops, and the lions, from which it derives its name, are said to be the only existing specimens of the sculpture of those ages. They have no tail, a circumstance observable also in the sculptures of Persepolis, where animals like those at Mycenæ are represented. The Cyclops appear to have been a nomadic class of artisans, for two fine specimens of their architecture are found at Ausidonia and Saturnia, towns of Italy, anterior to Rome. In view of these facts, Sir Richard Phillips says: "There can be little doubt that the fraternal association of Masons originated in the traveling jobs of the Cyclops and early builders."

A characteristic of the architecture of the ancients was massive solidity, necessary, probably, as a means of defense against enemies.

WE are indebted to Thos. E. Hill, Esq., editor of the *National Builder*, for the matter contained in the foregoing article, as well as the beautiful cuts illustrating the same. The *National Builder* is published in Chicago, at 103 State Street. Price, $3.00 per year.

Fire Protection.



PROBABLY one of the most useful inventions of late, is the "Paragon" Hose Reel, represented by the above cut. It is designed for use in warehouses, public buildings, manufactories, hotels, etc., and especially in buildings where there are times when only a watchman or a few persons are about. It is permanently fastened to the wall, out of the way, supported by suitable brackets, and connected directly with the supply pipe through a hollow journal and packed joint, which allows the water to pass freely into the hose, the hose being connected to the hollow journal inside the reel, and reeled up as shown in the cut. Upon the discovery of a fire, the party present quickly turns on the water by the valve "A," takes the hose pipe and runs off toward the fire, the hose running off of the reel freely, without a twist or a kink, and the water following immediately, thus saving the very valuable time usually lost in strightening out the kinks and twists in the hose, and in going back to turn the water on.

Every hotel, public building, and manufactory should have one or two of these reels, with hose to reach to every part, on each floor.

The packed joint is simple, allows the reel to turn freely, and automatically becomes more tightly packed as the pressure increases, thus obviating all danger of leakage. They can be seen in the Market Street Cable Railway Co. building, California Cracker Co., American Cracker Co., Fireman's Fund Insurance Co.'s building, H. S. Crocker & Co., the new Oriel building, at the junction of Page and Market Streets, and in many other public buildings, factories, etc. W. T. Y. Schenck, 256 Market Street, is the patentee and manufacturer, and furnishes them for any size or quantity of hose. He is also agent for the "Eureka," "Paragon," "Red Cross," and "Eureka Mill" brands of cotton rubber-lined hose, the latter being especially adapted for inside fire protection in mills, factories, public buildings, hotels, churches, etc.

STEEL SQUARE, ITS USES, PRICE $4.00.

TRANSFER VARNISH FOR ENGRAVERS.—Take six and a half ounces mastic in tears, twelve and a half ounces resin, and of genuine pale Venice turpentine and sandarac, of each twenty-five ounces. Dissolve, add one quart turpentine varnish, agitate well, and strain.

Scarcity of Competent Draughtsmen.

ALREADY, architects are beginning to feel the scarcity of competent draughtsmen. This office is naturally looked to by the profession as the headquarters of disengaged draughtsmen; but for months there has not been on our books a single name the owner of which really claimed to possess the abilities required to well and truly delineate the plans and details of an ordinary building. Even second-rate men are very scarce, while the small army of "tracers," copyists, etc., that so infested the various offices two years ago, seem to have disappeared entirely.

The principal reason for this lack of the proper kind of talent, lies in the fact that the surrounding country has drawn off everyone who thought their condition could be bettered. The southern part of the State now has about as many draughtsmen as the northern part. Just before the holidays, architects from San Diego, Los Angeles, Pasadena, and other places, visited this office, and left *carte blanche* orders to have their wants supplied, no matter what the wages demanded were. Even with this pressing need to be supplied, but one draughtsman could be found to take the offer.

Several firms in this city have applied for the first disengaged men of whom we may hear. Repeated inquiries, however, develop the fact that there are no idle draughtsmen in this city, and none whose engagements will shortly expire. We need about a dozen more to be added to our regular corps in San Francisco.

Our Eastern friends who read this article, and who may desire to come to this place, must give serious consideration to the following facts. For nine months in the year there is a considerable amount of building going on; the remaining three months being slack months, as statistics will show. During the past year, in this city alone, 3,732 buildings have been erected at a cost of $19,648,505.

Wages vary from $2.50 to $5.00 per day, depending altogether on the ability of the draughtsman. The hours are the same as in most Eastern cities. Above all things, *do not come here with the idea that you know it all.* Our details are essentially different from those East. There, stone and brick buildings are in the majority as far as numbers are concerned. Here, the exact opposite is the case. FULLY NINE-TENTHS of the buildings in California are built altogether of wood, the chimneys, and in some cases the foundations, alone excepted. We do not think in the whole State of California, that there are fifty buildings on which stone "trimmings" are used, and yet there are buildings costing up in the hundreds of thousands. So a new draughtsman must be prepared to spend a little time in studying our details.

Should anyone desire to make the Golden State his future home, we will take pleasure in informing him of the chances of employment. When writing, state age, qualifications, etc., so that ample information can be given to those who will bid you come. Be sure to state the number of years engaged in the profession, and the degree of skill to which you consider that you have arrived. No charge is made for any advice we may give.

Do not—California like—pack up and start for this place as soon as you read this article. From twelve to fifteen good draughtsmen are all we want at present. Write to this office FIRST, give all information necessary, and then wait for our answer; when you get the latter you can depend on any statements we make.

HAND IN OR SEND

Your SUBSCRIPTIONS for 1887

TO THOSE who so promptly responded to our request for immediate settlement of subscription and advertising balances,

WE SAY, THANK YOU.

To those against whose names remain unpaid balances, we say,

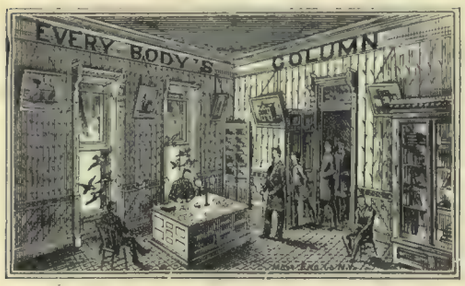
PLEASE PAY UP AT ONCE.

Remembering THAT—Defrauding an editor is considered one of the meanest kinds of peculation; THAT—"*Honest men are the gentlemen of nature;*" THAT—"The man who pauses in his honesty, lacks but little of the rogue;" THAT—A rogue in spirit is a rogue in gain."

Therefore,—Let every one who *receives* or *reads* this journal, forthwith forward to this office its subscription price for 1887, and any and all unpaid indebtedness.

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

ASKED, ANSWERED, AND COMMUNICATED



☞ Architects, Contractors, Carpenters and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

Free to All.

THE columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to assume that we have passed the reef of human liability to err, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assure—that whatever of error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

WE intend to make a specialty of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanics, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas on the practical questions of the day; and we hope to receive from those interested, and especially amongst builders, questions arising in their daily practice. No matter what may be the solutions given to the various problems presented, we shall only be too pleased to receive replies from our readers, where they see other and better solutions for them. If a general interchange of ideas can be brought about great advantages will ensue to all. Let not a month go by without bringing up for discussion practical topics in the architectural, mechanical, or scientifical pursuits. We desire a general expression of opinions, for or against, of every article presented by us. Every communication will receive deliberate and careful consideration.

The Right Ring in a Letter.

WINTERS, YOLO CO., Jan. 25, 1887.

To the Publishers of the CALIFORNIA ARCHITECT—

INCLOSED please find $2.50 for the CALIFORNIA ARCHITECT and a copy of Mr. David Salfeld's new work entitled, "Country and City Homes."

I am glad to notice the gradual improvement in the CALIFORNIA ARCHITECT from year to year. At first I was not a subscriber, but after receipt of the first few copies, I found it indispensable and so secured the back numbers. I have now a complete set. I feel interested in the permanent success of your journal, and were I a younger man, would gladly contribute to your columns. I hope that Mr. Wolfe will *stick* to being its editor until there is a *sure* thing of having his place filled (*which, by the way, is no easy thing to do*). Respectfully,

T. D. BALL.

Thanks, Mr. B.; the years you complain of are just the best argument why you *should* contribute to our columns. Age gives experience, and the latter is the best teacher. We shall be pleased to hear from you as well as many others from your delightful county.

"STUPID" sends a communication in regard to the "Diagonal Brace Question." No name or address being given, it will lay over for the present.

Table for the Use of Nails.

THE *National Builder* gives the following table for the use of nails:—

For 1,000 shingles allow 3½ to 5 pounds fourpenny nails, or 3 to 3½ pounds threepenny nails.

For 1,000 laths allow about 6 pounds threepenny fine nails.

For 1,000 feet clapboards, about 18 pounds sixpenny box.

For 1,000 feet boarding boards, 20 pounds eightpenny common.

For 1,000 feet boarding boards, 25 pounds tenpenny common.

For 1,000 feet top floors, square edge, 38 pounds tenpenny floor.

For 1,000 feet top floors, square edge, 41 pounds twelvepenny floor.

For 1,000 feet top floors, matched, blind nailed, 35 pounds tenpenny floor.

For 1,000 feet top floors, matched, blind nailed, 42 twelvepenny floor.

For 1,000 feet furring, 1x3, 45 pounds tenpenny common.

For 1,000 feet furring, 1x2, 65 pounds tenpenny common.

For 1,000 feet pine finish, about 30 pounds eightpenny finish.

Lumber Measure. Save This Table.

BELOW will be found, in a very convenient form, a table by the use of which the number of feet in any given size of timber, can be readily and accurately obtained.

The column on the left gives the size of the timber; the figures on the top the length in feet. It will be readily apparent that any quantity can be found besides those given. Suppose the timber was 14x28, 100 feet long. This in length would be 2 pieces 30 feet long and 2 pieces 20 feet long = 1,634 feet; double this = 3,268 feet, the correct answer.

A piece 16x16 = 30 feet long, can be found similarly, being equal to 4 pieces 8x8 of same length.

Every mechanic should have a copy of this table pasted on the inside of his chest lid.

TABLE OF LUMBER MEASURE.

Size in Inches.	12	14	16	18	20	22	24	26	28	30
2x3	6	7	8	9	10	11	12	13	14	15
2x4	8	9	11	12	13	15	16	17	19	20
2x6	12	14	16	18	20	22	24	26	28	30
2x8	16	19	21	24	27	29	32	35	37	40
2x10	20	23	27	30	33	37	40	43	47	50
2x12	24	28	32	36	40	44	48	52	56	60
2x14	28	33	37	42	47	51	56	60	65	70
3x4	12	14	16	18	20	22	24	26	28	30
3x6	18	21	24	27	30	33	36	39	42	45
3x8	24	28	32	36	40	44	48	52	56	60
3x10	30	35	40	45	50	55	60	65	70	75
3x12	36	42	48	54	60	66	72	78	84	90
3x14	42	49	56	63	70	77	84	91	98	105
4x4	16	19	21	24	27	29	32	35	37	40
4x6	24	28	32	36	40	44	48	52	56	60
4x8	32	37	43	48	53	59	64	66	75	80
4x10	40	47	53	60	67	73	80	87	93	100
4x12	48	56	64	72	80	88	96	104	112	120
6x6	36	42	48	54	60	66	72	78	84	90
6x8	48	56	64	72	80	88	96	104	112	120
6x10	60	70	80	90	100	110	120	130	140	150
6x12	72	84	96	108	120	132	144	156	168	180
8x8	64	75	85	96	107	117	128	139	149	160
8x10	80	93	107	120	133	147	160	173	187	200
8x12	96	112	128	144	160	176	192	208	224	240
10x10	100	117	133	150	167	183	200	217	233	250
10x12	120	140	160	180	200	220	240	260	280	300
12x12	144	168	192	216	240	264	288	312	336	360
12x14	169	196	224	252	280	308	336	364	392	420
14x14	198	229	261	294	327	359	392	425	457	490

GRIMSHAW ON SAWS, PRICE - - - $4.00.

AN illustrated article by Fred Larcy, on the "Diagonal Brace Question," will appear in our next.

STEEL SQUARE, ITS USES, PRICE $1.00.

MECHANICS, and all others interested, should remember that we can furnish any books printed, at the shortest notice and the lowest prices. We have reduced the price of "SCIENCE OF CARPENTRY MADE EASY," TO $4.00.

CONTRACTORS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

Paper Read Before the S. F. Chapter, American Institute of Architects, Feb. 4, 1887, by Fellow John Gash, Esq.

MR PRESIDENT AND GENTLEMEN: In my papers for this evening's reading, I would say by form of preface that my object is not directly to speak of the way or how plumbing should be done, as of this subject, like many others, much has been already said and written; it is rather to show the growth and progress of the sanitary system of the home, both in the comfort of the supply of water for culinary purposes, as also for the bath.

Like most of the subjects that are partially lost in the sands of time, we find dim references of both of these in Biblical lore. The tales of Abraham and Jacob watering their flocks, and their daughters drawing water from the wells for domestic use. Nor was this labor unattended by a blessing, as we read of Rebecca, the daughter of Bethuel, going to the well to fetch water, and there meeting the servant of her future husband, Isaac, a domestic romance that has and may well be read and copied by Rebecca's daughters from then till now.

The refreshing advantages of the bath are too well known to the whole animal kingdom and to man in all ages and countries, and its luxuries may be read of in the history of the Jews, Romans, Grecians, and Egyptians, and those ruins of the baths of Caracalla and Diocletian stand as monuments telling of the luxury to which the bath had been carried in those days.

But the drawing of water from the well for culinary purposes has long been abandoned, and the introduction of water into dwellings by means of piping, and the conveying of water therefrom, has perhaps occupied the attention of more persons in the present age than any other factor in building. The architect, sanitary and civil engineer, with the army of physicians, have jointly and severally handled this subject until, I am happy to say, our system of plumbing is pretty thoroughly understood, nor indeed has any foreign or European country made such advances in this as has been made in our own country; and I would say, perhaps no city in the Union can boast of as thorough a system of plumbing as we can in our own city of San Francisco, without, of course, any reference to its sewerage, which, perhaps, runs to the other extreme, and can scarcely be found any worse.

For many centuries physicians had a practical monopoly of what little was known of the conditions affecting the public health, and there seemed to be no incentive to original investigation and experiment, even if the means of prosecuting an inquiry so important to all classes of the people, had been at the command of those who, under more favorable circumstances, would doubtless have made important contributions to the literature of plumbing.

To the medical profession we owe the greater part of what has already been learned and placed on record, of the truths which form the basis of sanitary science. Indeed, so strongly has this matter been taken hold of by the public mind that they no longer attribute the visitation of the "Angel of Death" to the "afflictive dispensations of providence" which are so mysterious and past finding out.

People often wonder why we do not have such fearful visitations of epidemics at the present day—as the plague of London, the ancient spotted fever, sweating sickness, etc.—yet we have outbreaks of cholera, yellow fever, and typhoid, with other diseases, which may be traced to that most deadly foe of the household, sewer gas, which stealthily creeps through our house through the night, and midst the dazzling splendor of the beautifully draped parlors and rich and modern upholstery, leaves its deadly trail, whose odor is inhaled by some dear member of the household, perhaps a loving child, a fond parent, or an affectionate brother or sister.

This foe of the fireside, you gentlemen, as architects, should most assiduously battle against.

When you hear of persons desiring to have their houses filled up with all the modern conveniences, so-called, bear in mind an unseen stranger as above referred to, may be also introduced.

By sewer gas I mean the gaseous emanation from decomposing sewerage which, when it mingles with the confined air of our unventilated living and sleeping rooms, retains its terrible power for mischief long enough to do its deadly work effectually. And here I would say the worst features of sewer gas poisoning are very often found where sewer gas proper does not penetrate.

In most houses the so-called sewer gas, which is both a nuisance and a danger, is chiefly manufactured on the premises, and does its fatal work none the less effectively because it is called by a wrong name. The worst defects of the commonest plumbing done by contract are rarely noticed in new houses.

All the sewer connections are made that ever will be made, but we pass from room to room without noticing any unpleasant smell, and therefore never suspecting danger. When the pipes are fouled by the waste of the house, the trouble begins, and it increases from month to month, and year to year, as the foulness within the waste pipe system accumulates, and until the gaseous products of decomposition within pipes are prevented from mixing with the air we breathe in living and sleeping rooms.

From the most careful analysis of sewer gas, it shows that it is composed chiefly of carbonic acid, nitrogen, sulphurated hydrogen, and some fetid vapor. The elementary gases and those of known compositions which are commonly found in sewers and unventilated cess-pools, though mostly capable of destroying life under favorable conditions, are not considered responsible for much, if any, of the fatal effects properly attributed to sewer gas. Carbonic acid is the gas usually found present in greatest volumes in sewers, both ventilated and unventilated.

The proportion as determined by analysis varies according to circumstances, but it is usually large. This gas is an invariable product of the decomposition of all substances containing carbon. Inhaled in concentrated form it quickly produces death, and even when considerably diluted with atmospheric air, produces asphyxia, and unless the victim is quickly rescued from its influence, death follows promptly. It does not readily leave sewers and cess-pools, however, owing to the fact that its specific gravity is considerably greater than the air, and so much of it as would naturally find its way into a house from a sewer or cess-pool, has been proved beyond a reasonable doubt to cause typhoid fever.

In one case in the town of Croydon, where the gas was known to have entered the house, it did not smell offensive, only a faint, sickly odor being recognized. In this case the gas was driven into the house by a shower filling the conductors with water. The problem of the present age seems to be the thorough ventilation of sewers, and so many ways and means have been suggested that a description of even a few of them would be more than my paper would allow; but the most universally adopted seems to recommend "man-holes" in our streets, covered with gratings as open as might be consistent with strength, and these kept free from street cleanings; and to oblige every house-owner to vent his soil pipe (unobstructed by any form of trap along its line) to a point above his roof; the ventilation of sewers might be a success. The stopping of sewerage by the incoming tide, etc., the difficulties attending steep grades, and other such obstructions to be met in many cities, would admit of many theories, a paper on which, by one of you gentlemen, would be, I am sure, warmly received by our Chapter.

But the sanitary conditions of cities and towns nowadays, and those of a couple of hundred years ago, are very gratifying. After the fall of the Roman Empire to the end of the Middle Ages the people of Europe may be said to be unwashed. Of Paris it is recorded, by Rigord, physician to Philip Augustus, that one day looking from his window, he saw a carriage passing, and the substance forming the streets being stirred up by the revolution of the wheels, emitted a stench so powerful as to overpower the king. This so disgusted him that he urged the citizens to pave the streets, and to assist in the purification of the city he built walls round the cathedral to prevent it from remaining any longer a common corner for convenience.

Nor was the city of London any better. A writer of the period says that the streets around St. Paul's were covered with horse manure a yard deep. Floors were of clay, covered with rushes which grew in the fens, and which were so slightly removed now and then that the lower part remained for many years undisturbed and in it such a collection of foulness as only can be found in a scavenger's dog-cart. Cleanliness of the person was a thing almost unknown.

One old writer says the better classes of people wore clean garments on the outside, but the inner ones were often worn until they fell piecemeal away from their unwashed bodies.

Comparing this account with the advance the present generation has made in cleanliness, we bring as if ourselves to that age in which Rome could so boastingly speak, amongst other things, of her aqueducts for water supply, her public baths, giving facilities to her citizens to take at the rate of 70,000 baths per day. A revival of the luxury of the bath, known under the name of Roman, Turkish, Russian, German, Jewish, Medicated, Vapor, Hot Air, Gas, and Animal Baths, have become almost universal in our own age and time. Many of which are well represented in our own city.

The continuation of my papers on "Baths, Ancient and Modern," their history, manner of construction, the ancient and modern system of heating, the luxury of the baths of Caracalla, Titus, and Diocletian, their arrangements adorned with the most valuable column paintings and statues; in a word, for every

OUR MARCH ISSUE WILL BE REPLETE WITH INTERESTING INFORMATION.

A Picturesque Cottage.

species of polite and manly amusements,—to give them any sort of a description would, in fact, require another paper with this, when I will be able to furnish with them a few drawings, showing their internal arrangements, and sections showing their mode of heating such quantities of water, etc.

Warner's Hangers.

IT is a pleasing duty to bespeak attention to one of the most ingenious of modern architectural conveniences, a device, indeed, which justly claims rank among the necessities of home building.

Warner's Patent Sliding Door Hangers, owned and manufactured by E. C. Stearns & Co., Syracuse, N. Y., are as nearly perfect in producing the effects desired by their use as human ingenuity may hope to achieve.

That over 100,000 sets of these hangers are now in use, that some 1,200 leading architects accord them an unqualified approval, are but the logical sequence to established merit.

The main features of "Warner's" are too well known and appreciated to need more than a bare summary. They obviate cutting the carpet; do away with the floor rail; always remain on the track; are easily adjusted to shrinkage; are entirely concealed, and run so true that the heaviest doors are easily moved.

"Warner's" is the pioneer hanger in the market. It has suggested numerous imitations which have done valuable service to the public by advertising the original; for the sale of Warner's is at present greater than the combined product of its many competitors.

In a word, Warner's Patent Sliding Door Hangers completely and perfectly fill a great public need, and admit of no rivalry, because they exactly and economically produce the effects required.

Thermometers.

PERHAPS not one in a hundred can tell off-handed why a point thirty-two degrees below freezing point on Fahrenheit's thermometer is called zero. For that matter, nobody knows. The Fahrenheit scale was introduced in 1720. Like other thermometer scales, it has two fixed points, the boiling point and the freezing point, or rather the melting point of water. The Centigrade and Reaumur scales call the freezing point zero, and measure therefrom in both directions. Fahrenheit kept the principle on which he graduated his thermometers a secret, and no one has ever discovered it. It is supposed, however, that he considered his zero—thirty-two degrees below freezing—the point of absolute cold or absence of all heat, either because, being about the temperature of melting salt and snow, it was the greatest degree of cold that he could produce artificially, or because it was the lowest natural temperature of which he could find any record. The grounds on which Fahrenheit put one hundred and eighty degrees between the freezing and boiling points are likewise unknown.

A Picturesque Cottage.

OUR engraving portrays a one-story cottage very conveniently arranged for a small family. The hall is so situated that easy access is obtained to all the principal rooms. If found necessary a fire can be had in every room, the chimneys being so placed that accommodations in this line are very convenient. The elevation is plain, but just suited to those whose purses are not of the longest. As shown, the house, with present prices of materials, can be built anywhere from $1,250 to $1,500.

Useful Hints in Building.

SEE that chimneys are built on good stone foundations; settlement will be avoided and one of the causes of unexplained fires will be removed.

Do not finish windows to the floor; the circulation across the floor is one of the causes of cold houses.

Stops to doors and windows should be fastened with round head screws, so as to be easily moved.

Do not construct solid doors of two kinds of hard wood; the action of the atmosphere on one or the other will cause the door to warp.

In building book-cases let there be a half-inch space between the back of the shelf and the wall; dust can then easily be brushed back, falling to the bottom.

Do not locate a furnace register next to a mantel, that is, if you wish to utilize the heat.

Do not build a cistern in the cellar of a house unless you wish to generate unhealthy atmosphere.

A closet finished with red cedar shelves and drawers is death to moths and insects.

Porch floors should be of narrow stuff and the joints laid in white lead.

The ceilings of closets may be made lower than the apartment adjoining; it saves plastering.

A ventilating flue from the kitchen into the chimney often does away with atmospheric meals.

In building frame houses, fill the studding one foot high above the sill with brick; this discounts the use of rat traps.

Ash pits in cellars under fire places and mantels save taking up ashes, for they may be raked down through a hopper.

Plaster cornices and center-pieces are relegated to the past. Paper and fresco work is the proper thing.

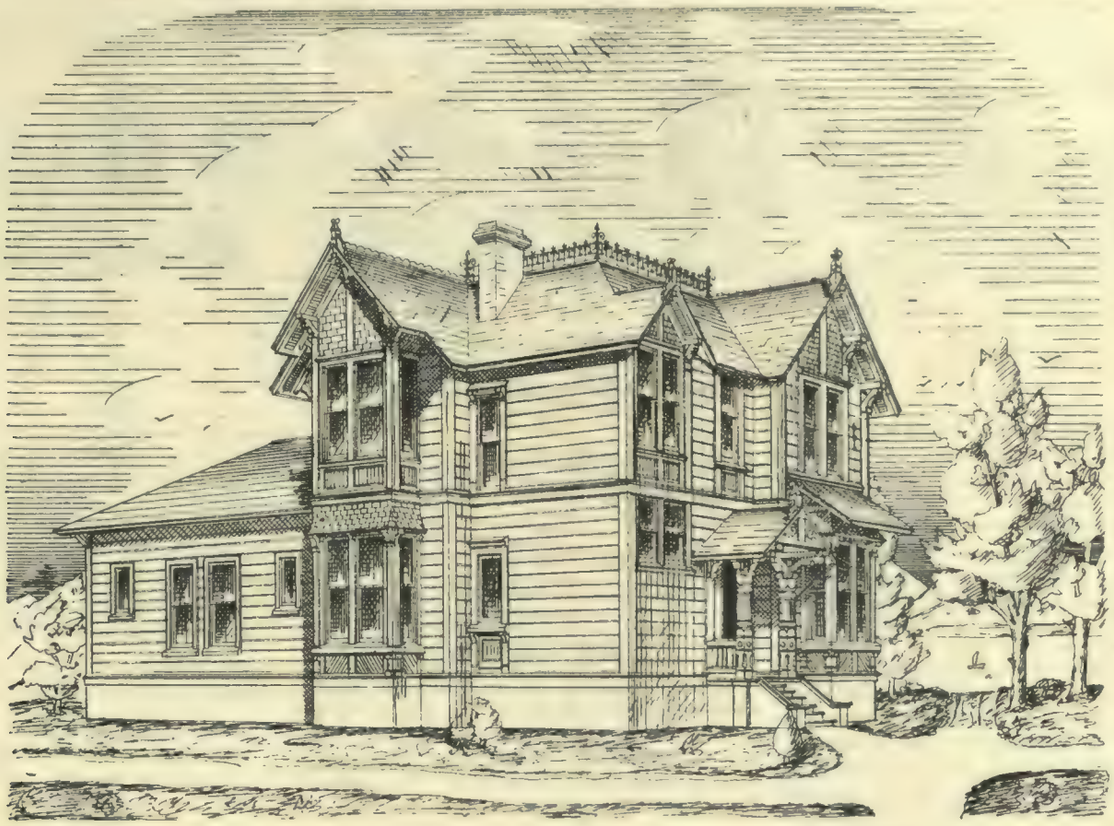
Sliding doors into small apartments are to be preferred in place of folding.

Don't inclose the sink; no place in a kitchen is so much neglected.

Do not use one chimney flue for two stove-pipes; the draught of one will counteract that of the other.

Lime water is a fire-proof protection for shingles or any light wood-work.

BOUND VOLUMES OF 1886 ARE NOW READY. PRICE $2.50 EACH, POST-PAID.

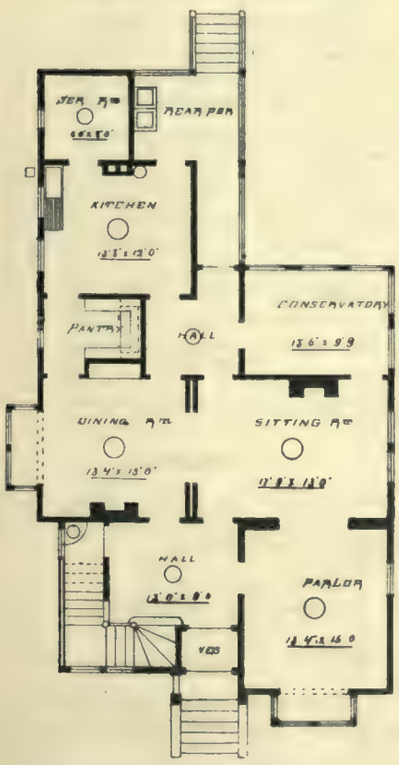


PERSPECTIVE ELEVATION OF A COUNTRY OR SUBURBAN DWELLING. D. SALFIELD, ARCHITECT.

THE accompanying plans below, and the perspective above, illustrate a design for a nine-room suburban or country home, suitable for a small refined family wanting all the privacy and elegance of a first-class dwelling, and yet embodied in a small space without any great outlay or expense.

The broken outline of the building, with gables in every direction, finished with fancy shingling, carved brackets, ornamental finials, and high pitched roof, and the square bay-windows on the front and on the side, would make a very picturesque, attractive building, if surrounded by shade trees or shrubbery. A careful examination of the floor plans will show at once the convenience and beauty of arrangement. The front entrance door opens into a large hall, with the parlor on the right, and doors communicating with dining and sitting-rooms in front. A beautiful conservatory, with glass sides and roof, opens off the rear hall and sitting-room.

The cuts illustrating this article were kindly furnished us by David Salfield, architect, whose office has lately been moved to 339 Kearny Street.



FIRST FLOOR PLAN.

Architects, Attention!

We want every architect on the Pacific Coast to contribute a short article for the March number of this journal. It should be your aim to make your home journal interesting to all who may read it, and there is no surer way to obtain this end than by each one writing a short article. Illustrate it, if need be; we will make the cuts. Be sure that the articles reach this office by the 5th of the month.

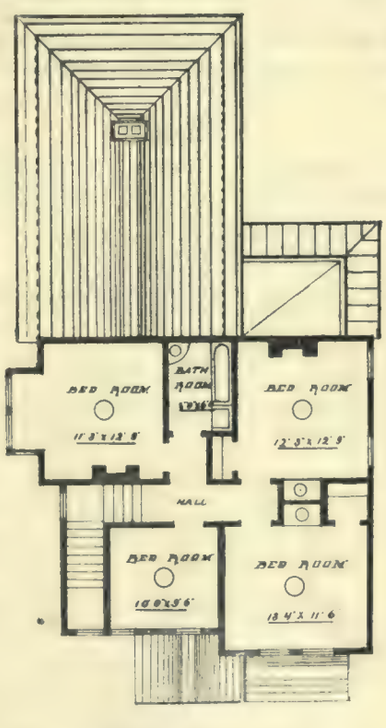
To Contractors.

What contractor in the city but knows of some little idea that would be beneficial to our readers. Help to build up this journal by a free interchange of thoughts. It will pay you tenfold to be in communication through our columns with all the master mechanics of the Pacific slope. Do not let the thought enter your mind that you cannot write well enough. Do the best you can, and we will see that your ideas are presented in proper shape.

Apprentices.

When you have found out any ideas that should be known by every one, forward them to us, and we will publish them under your own names, that others, hearing of your good deeds, may go and do likewise.

TREDGOLD'S CARPENTRY,
Price, - - - - - - $7.50.



SECOND FLOOR PLAN.

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

COUNTRY
BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. We have been busy the past two months in perfecting arrangements by which we can secure information from every portion of the Pacific slope. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

For eight years there has appeared in this journal, building news from every portion of the country. But in its condensed form it did not attract the attention it deserved. We begin the New Year by making a specialty of the item mentioned.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on;" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interests of Architects, Contractors, and Material Men.

Alameda.

J. Maristany is erecting two six-room cottages on Alameda Avenue. Cost, $4,500.

Hand Railing and Stair Casing, for $1.50.
Drawing for Carpenters, for $1.75.

Mrs. Bromley will soon erect a new building on Everett Street.

Painter, Gilder, and Varnisher, for $1.50.
Architects' Companion, for $2.50.

Henry Godfrey has contracted for a $2,500 brick building.

Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.

Fresno.

Mr. Timothy Paige is about to erect twenty cottages in the western part of town.

Woodward's Farm Homes, for $1.00.
Woodward's Graperies, for $1.00.

Wm. Pool and Robt. Minto are building handsome residences near town.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Haywards.

John H. Boden is about to erect a $3,600 dwelling.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Los Angeles.

A large building for a passenger depot will be shortly commenced for the A. T. & S. F. Railway Co. It will be of brick, and two stories high. A large freight depot will also be built near the above. The latter, however, will be of frame.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

For the winter season there is a vast amount of building going forward. Residences continue to spring up all over the expansive area of the city, which embraces thirty-six square miles, as if by magic. There are not less than two hundred new homes now in course of construction in the municipality. Many of these are very elegant edifices, each of which will cost a great deal of money. Foremost among such are Mr. W. T. Lambie's new house, which covers a sightly knoll in the extreme east of East Los Angeles; the new mansion of Mr. A. Classell, on Fort Hill; and still another in close proximity to this, the Bradbury palace, on the hill at the corner of Court and Hill Streets; the residence of Mr. Tyler Longstreet, and that of Mr. A. H. Judson nearly side by side in the Dana Tract on Figueroa Street. The cost of these will range at from $10,000 to $30,000 each.

In business blocks, there are notably the improvements made by Mr. Hellman and Colonel Baker, near the new post-office, which embrace a vast area of space between Main and New High Streets, at the intersection of Sonora Street; the great blocks of brick buildings going up at the corner of Main and Second Streets, for Mr. Newell and others; the big block to cost $80,000 for the Los Angeles Improvement Company on the corner of Second and Fort Streets; a new block on the corner of Upper Main and Walters Streets, for W. A. Clinton; the giant block for Louis Phillips on the corner of Spring and Franklin Streets; a small brick block on the corner of New High and Marchessalt Streets; the large block for Martin Bastincherie on the corner of Commercial and Wilmington Streets. Less magnificent buildings, both for residence and business purposes, are going up all over the city, in all parts. These remarks apply equally to East Los Angeles, Boyle Heights, the hills west of the city, the plains near the river, the region around the University in West Los Angeles, and all the sections that lie between these quarters of the municipality.

As to the future, the architects say the prospect is most excellent. They are ready to gamble heavily on the proposition that there will be more bricks laid in the year of grace, 1887, than were laid in its predecessor, within the city of Los Angeles. This is without reference to the new county Court House, of course.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

R. B. Young, architect, is preparing plans for a new building for John Wigmore.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

Modena.

Collections are now being made for a new church building at this place.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Monrovia.

A two-story building, to cost about $4,000, has just been commenced; Johnson & Parker, owners.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

Combs & Banning will shortly commence the erection of a business block.

Every Man His Own Mechanic, for $3.50.
Tredgold's Carpentry, for $7.50.

Rev. J. B. Greenfield, A. Fell, Stewart & Perham, John Thomas, and others, are all contemplating building in the spring.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

Baptist and Methodist Churches are under way, and also a planing mill.

Builders' Construction (three volumes, very fine), for $14.00.
People's Cyclopedia (three large volumes), for $20.00.

Monrovia is in Los Angeles County.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Piedmont.

The inhabitants of this place are much elated over the prospects of having a new $100,000 hotel building.

Cutting Tools, for $1.50.
Cummings' Details, for $5.00.

Pasadena.

J. E. Howard has about completed arrangements for a $10,000 residence.

EACH SUCCESSIVE NUMBER WILL BE COMPLETE IN ITS BUILDING REPORTS.

Album of Mantels, for $8.00.
History of Architecture, for $15.00.

Milton Stratton, Dr. Whittier, and J. P. Day, have each purchased property, which they intend to improve in the spring.

Drawing for Stone Masons, for $1.50.
Building Construction, for $1.25.

Pacific Grove.

A large new hotel building will shortly be erected at this place.

Drawing for Bricklayers, for $1.50.
Drawing for Cabinet Makers, for $1.50.

Petaluma.

Mr. Gerkins intends shortly to build a house on corner of Fifth and D Streets.

Artisan, for $5.00.
Builders' Guide, for $2.00.

San Diego.

According to the papers here, active work is steadily in progress for the new hotel to be erected on Coronado Beach.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

Suisun.

Extensive repairs are being made to the Catholic Church.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

San Bernardino.

The contract for the new Stewart Hotel has been let to Gee Brothers. Consideration, $62,263. In our last issue we gave Mr. Keefe the credit for the job, but, as he failed to give bonds, Gee Brothers at once qualified. Total cost of the building will be about $65,000.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

R. E. Davis is erecting a $2,800 dwelling.

Artisan, for $5.00.
Builders' Guide, for $2.00.

San Buenaventura.

Dr. Cody has completed a contract with J. C. Capito, for a nice dwelling.

Album of Mantels, for $8.00.
History of Architecture, for $15.00.

Sebastopol.

Plans are being prepared for a new hotel for Messrs. Barnett & Co.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

San Jacinto.

F M. Porter is preparing to build a $6,000 brick building.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Santa Monica.

The Episcopal Church Society have already secured $2,500 towards their proposed new building.

Limes, Cements, and Mortars, for $4.00.
Wonders of Art, for $1.25.

Stockton.

About $6,000 has been subscribed towards the erection of a $30,000 agricultural pavilion in this place.

Ruskin's Works (four volumes), for $6.00.
Industrial Drawing for Carpenters, for $2.00.

San Jose.

H. Grees and R. Emmett have been buying property upon which, in the spring, they will erect desirable residences.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

The residents of this place are much elated over the prospects of a fine large hotel to be built at this place. The sum mentioned for its construction is not less than $300,000. James Phelan is the moving spirit in regard to the enterprise.

Architecture and Building, for $3.50.
American Cottage Building, for $3.50.

Tyler Beach proposes to erect a $50,000 building on St. John Street.

Mural Painting (new), for $3.00.
Home Hand-Book, for $10.00.

Selma.

A new hotel has just been commenced. It will be three stories high, and front 120 feet on two different streets.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Tulare City.

Brick building. Owner, G. W. Weybert; architect, H. D. Mitchell. Cost, $40,000.

Hand Railing and Stair Casing, for $1.50.
Drawing for Carpenters, for $1.75.

SAN FRANCISCO BUILDING NEWS.

B

Bartlett, bet. Twenty-fifth and Twenty-sixth. Two-story frame.
O. and B.—John T. Grant.
$5,000.

Bluxome, bet. Fourth and Fifth. Two-story brick.
O.—Mrs. M. F. S. Hopkins.
A.—O. G. Moore.
Mason—T. Whitehead.
Carpenter—T. H. Day.
$10,000.

Bartlett, cor. Twenty-fifth. One-story brick.
O.—Co-operative Factory.
$750.

Baker, cor. Hayes. Brick work of building.
O.—F. Heywood.
A.—C. I. Havens.
C.—O. E. Brady.
$5,000.

C

California, nr. Devisadero. One two-story frame and one one-story frame.
O. and B.—L. Bruns.
$4,700.

California, bet. Maple and Cherry. Additions to Children's Training School.
A.—McDougall & Son.
C.—P. Griffin.
$1,500.

Cliff House. Repairs.
$3,000.

California, cor. Battery. Additions to brick building.
O.—Sherwood.
A.—J. T. Gaynor.
C.—Thos. White.
$35,000.

California, cor. Mason. Additions.
O.—W. H. Crocker.
A.—Curlett & Cuthbertson.
C.—C. L. Ferris.
$1,000.

E

Eddy, bet. Octavia and Laguna. Additions.
O.—A. Marks.
C.—H. Keenan.
$4,500.

Everett, bet. Third and Fourth. Three-story frame.
O.—P. J. Grey (Parochial School).
A.—T. J. Welch.
C.—Bateman Bros.
$10,000.

F

Florida, nr. Twenty-second. Additions.
O.—P. Sullivan.
C.—Jos. Dutton.
$1,700.

Fulton, bet. Octavia and Laguna. Two-story frame.
O.—Eliza Baum.
A.—Townsend & Wyneken.
C.—O. E. White.
$6,000.

Fillmore, cor. Germania. Two-story frame.
O.—E. H. Perry.
C.—T. M. Quackenbush.
$3,500.

Fillmore, nr. Clay. Additions.
O.—Bennett.
C.—J. A. Leonard.
$3,000.

Fair Oaks, bet. Twenty-first and Twenty-second. Two-story frame.
O.—Julius Abrams.
C.—R. Stephens.
$2,800.

G

Gough, cor. McAllister. Three two-story frames.
O.—Mary Ohngemach.
A.—T. J. Welch.
C.—S. S. Greene.
$10,000.

Gough, bet. Geary and O'Farrell. Three-story frame.
O.—B. Ettinger.
A.—J. E. Wolfe.
Mason—E. R. Sham.
Carpenter—Gray & Stover.
Additional contracts, $1,500.

H

Haight, bet. Broderick and Devisadero. Two-story frame.
O.—J. P. Murphy.
A.—Townsend & Wyneken.
C.—P. Laherty.
$4,000.

J

Jones, nr. California. Two-story frame.
O.—Geo. Whittell.
A.—Clinton Day.
C.—Ingerson & Gore.
$5,000.

M

Market, nr. City Hall Avenue. One-story brick.
O.—Chas. Baum.
A.—Townsend & Wyneken.
C.—Geo. Richardson.
$2,500.

McAllister, nr. Lyon. One-story frame.
O.—L. Zinnamon.
C.—B. Dryer.
$3,000.

Mission, bet. Fourth and Fifth. Two frame buildings. Additional stories to each.
A.—O'Connor.
C.—R. McCann.
$3,000.

Mission, bet. Twentieth and Twenty-first. Additional story.
O.—Garrity.
C.—B. Dryer.
$3,000.

N

Natoma, nr. Sixth. Two-story frame.
O. and B.—A. Norton.
A.—Miller & Waugh.
$3.700.

WE WANT A BUILDING CORRESPONDENT IN EVERY TOWN IN THE STATE.

Ninth, bet. Market and Mission. Three-story frame.
O.—P. Degan.
A.—T. J. Welch.
Carpenter—Bateman Bros.
Mason—O. E. Brady.
$10,000.

O

O'Farrell, bet. Stockton and Powell. Carpenter work on new brick building.
$5,000.

P

Pine, bet. Devisadero and Broderick. Two two-story frames.
O.—Mrs. Celia Hagan.
A.—Copeland & Banks.
C.—E. O. White.
$9,000.

Pine, bet. Baker and Lyon. Two-story frame.
O.—Maria Roethe.
C.—W. Pluns.
$4,000.

S

Sutter, bet. Van Ness and Franklin. Two-story and basement frame.
O.—I. Kohn.
A.—P. R. Schmidt.
Mason—O. E. Brady.
Carpenter—S. H. Kent.
$15,000.

Sutter, cor. Mason. Brick additions.
O.—Jennie W. Cushing.
A.—Pattiani & Co.
C.—Pattiani.
$2,700.

Stewart, bet. Mission and Howard. One-story frame.
O.—Pacific Pine Mfg. Co.
C.—J. T. Grant.
$1,000.

Seventeenth, nr. Noe. One-story and basement frame.
O.—P. H. Maas.
A.—L. Feiling.
C.—J. Kerrigan.
$2,400.

Scott, cor. Broadway. Two-story frame.
O.—F. Williams.
C.—Gray & Stover.
$4,500.

Sanchez, nr. Seventeenth. One-story frame.
O.—John Guinaw.
C.—O. E. White.
$1,200.

San Jose Avenue, cor. Twenty-sixth.
Four two-story frames.
O. and B.—Norris.
$5,000.

Steiner, nr. Oak.
One-story frame and basement.
O. and B.—C. Holm.
A.—W. Schrof.
$3,000.

T

Twenty-fifth, nr. Bartlett. Additions.
$500.

Twentieth, bet. Valencia and Guerrero. Two-story frame.
O.—R. S. Moore.
A.—C. I. Havens.
C.—Doyle & Son.
$6,700.

V

Valencia, bet. Twenty-fourth and Twenty-fifth. Additions.
$500.

Valencia, cor. Sixteenth. Additions.
$800.

Mexican Windows.—Mexicans seem to entertain the idea that windows were made to look in at as well as to look out of, and it is a matter of daily occurrence for men, women, and children of the *gamin* order, including peddlers and professional beggars, to congregate outside the bars and stand calmly staring in at us by the hour. The first sight of these barred windows strikes the stranger in Mexico rather unpleasantly, and he is apt to fancy himself in prison behind them, with his iron bedstead and brick floor for suitable accessories. In time, however, he realizes not only the conveniences, but the necessity of them, and by and by feels an uneasy sense of insecurity if by some rare chance he finds himself not thus protected. The greater portion of Mexico is a land of perpetual summer, where windows must be open both night and day, and these gratings cannot be "picked" like locks, or noiselessly cut like panes of glass. But though one may sleep here in perfect security without closing a shutter, it is well to move one's effects from proximity to the windows, for the *ladrones* have a habit of throwing in ropes with hooks attached and dexterously drawing out even your garments—from which practice, perhaps, originated the Texan slang word "hooking," for stealing. It is only justice to add that there is far less thieving going on in Mexico, in proportion to population, than in our own country, for the influence of Roman Catholicism is paramount, especially among the poorer classes. I venture to assert that with all your spring-bolts and careful precautions to bring in even the door-mats at nightfall there is more stealing done in any Northern city in a single day than in all Mexico in a year's time.—*Quo.*

CARPENTERS' STEEL SQUARE AND ITS USES, PRICE $1.00

Walnut oil gives new oak the effect of old.

Common brick absorb a pint of water each, and make a very damp house.

The lowest priced builder is not always the cheapest, as poor work will testify.

In arranging the openings of a room, do not forget the wall space. It is sometimes advisable to build a house to suit the furniture.

Terra cotta flue linings are a great improvement over the old roughly plastered chimney.

To properly select the colors applicable to the proper place, consult an educated painter.

RETAIL PRICE LIST
OF
LUMBER.

PINE, FIR, AND SPRUCE.

	Per M ft.
Rough Pine, merchantable to 40 ft. inclusive	$20 00
" " " 41 to 50 " "	21 00
" " " 51 to 60 " "	22 00
" " " 61 to 70 " "	23 00
" " " 1x3 and 1x4, Fencing	21 00
" " 1x3, 1x4, and 1x6, Fencing, odd lengths	19 00
" " second quality	16 00
" " selected	24 00
" " clear except for Flooring	29 00
" " " Flooring less than Dressed Flooring	1 00
Fire Wood	9 00
Dressed Pine, Flooring, 1x6, No. 1	32 00
" " " other sizes, No. 1	34 00
" " " all " No. 2	27 00
" " Stepping, No. 1	40 00
" " " No. 2	30 00
Ship Timber and Plank, rough, selected,	25 00
" " " selected, planed, 1 side	27 00
" " " " " 2 " average, 40 ft.	29 50
" " " " " 3 "	32 00
" " " " " 4 "	34 00
Deck Plank, rough	29 50
" " dressed average 35 ft	34 00
Pickets, rough, B. M.	19 00
Furring, 1x2, per lineal ft.	0¾
Lath, 1½ 4 ft., per M.	3 50
" 1½ 4 ft., "	4 00
Rough dunnage, delivered, per M.	20 00
Spruce dressed shelving, to 14 inches, per M.	35 00
" " ½ inch " " "	35 00
" " wider, per M.	40 00

REDWOOD.

	Per M ft.
Rough Redwood, merchantable	$20 00
" " second quality	16 00
" " selected	24 00
" " clear	33 00
Dressed " common surface	22 00
" " ½-inch surface	28 50
" " No. 1	33 00
" " No. 2	26 00
" " T. & G., 1x6, 12 ft. and over, No. 1	30 00
" " " other sizes, No. 1	30 00
" " " 7 to 11 No. 1	26 00
" " " under 7 No. 1	23 00
" " Rustic, No. 1	33 00
" " " No. 2	28 00
" " T. & G. beaded, 12 ft. and over, No. 1	33 00
" " " " other sizes No. 1	33 00
" " " " 7 to 11, No. 1	26 00
" " " " under 7, No. 1	23 00
" " Siding, ½-inch	23 50
Pickets (fancy), 4 feet, B. M.	25 00
" (rough pointed) "	17 00
" (" square) "	15 00
Battens, ½x3, per lineal ft.	0¾
Shingles, per M.	2 00
" fancy, per M.	3 75
Posts, split	.13
Shakes, split, per M.	9 00
" sawed "	11 00

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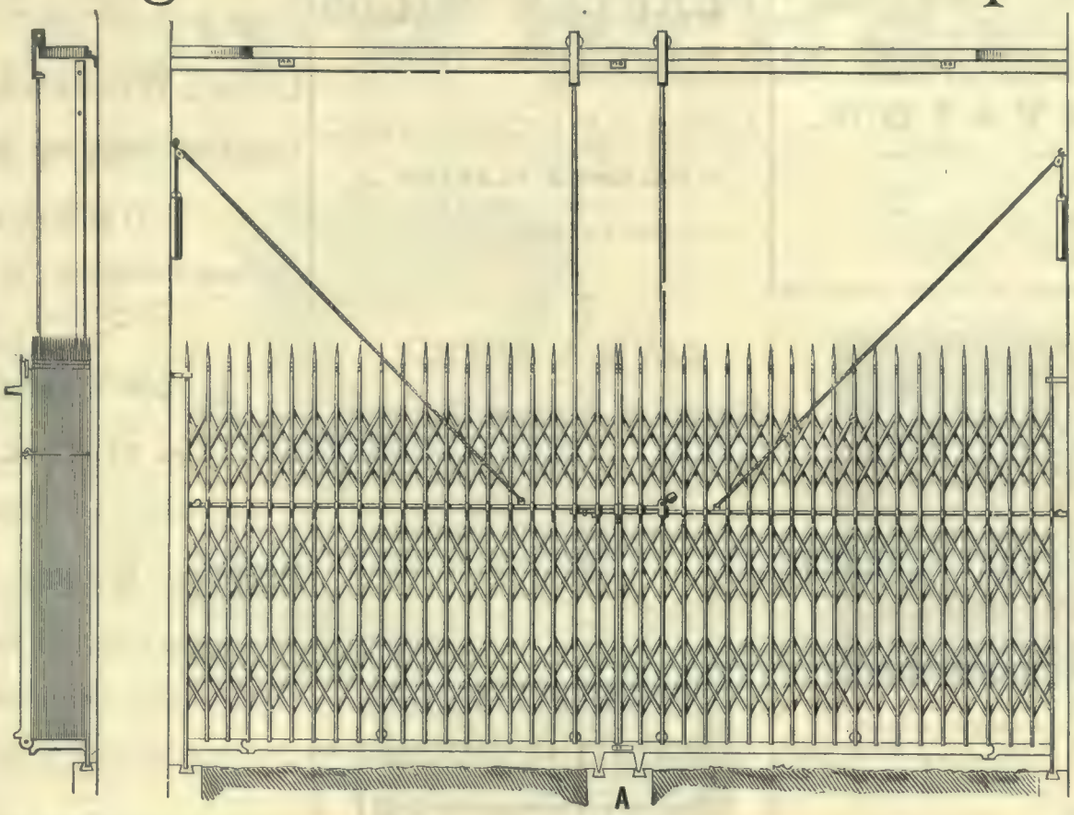
Folding Gate and Guard Company.

These Gates and Guards are manufactured to order in San Francisco, to fit and fill openings as desired. Descriptive Catalogues and Price List furnished.



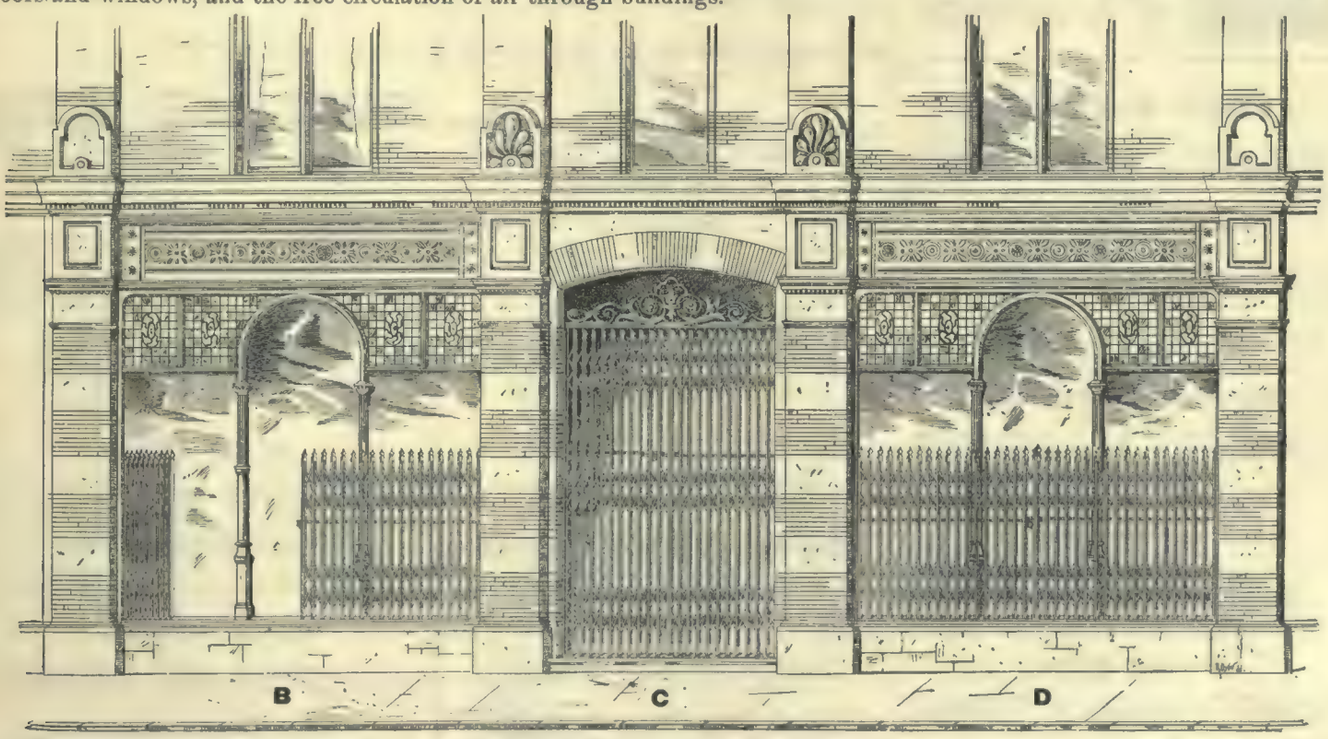
ABSOLUTE SATISFACTION GUARANTEED.—They are easily handled and adjusted, and are the most perfect device in use for the purposes for which they are intended.

Protect Your Homes and Business Houses

WITH ❋ THE ❋ IRON ❋ FOLDING ❋ GATES ❋ AND ❋ GUARDS.

They are ornamental in design, and afford perfect security when applied to store doors and windows—to vestibules, doors and windows of dwellings, and at stables, elevator wells, etc.

When in position they are an absolute safeguard against **Burglars, Thieves, Tramps and Designing Persons,** and can be removed and replaced without unhinging. As a **Sanitary Device** they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.



DESCRIPTION.—A represents the guard suspended overhead; B—Store window partly closed; C and D—Store door and window fully closed.

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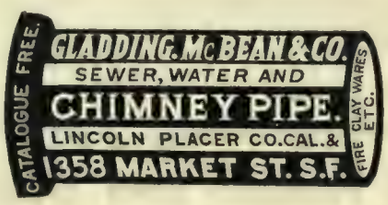

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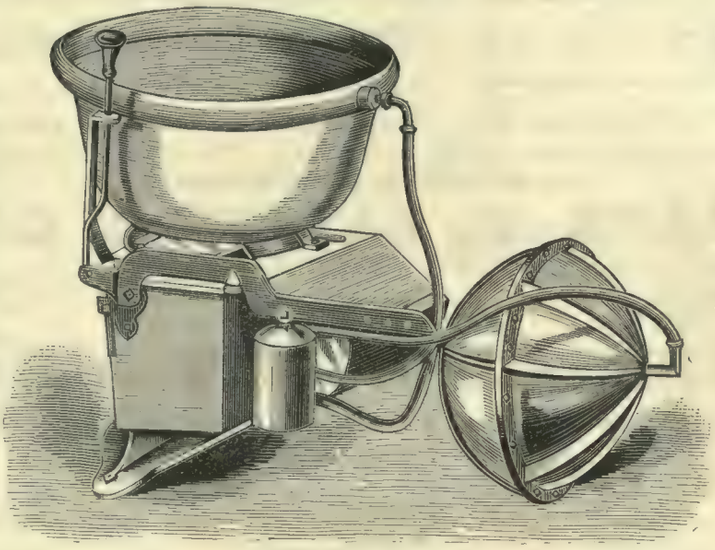
WATER CLOSET,

THE ONLY SELF-ACTING, TIGHT-SEAL WATER CLOSET IN THE WORLD.

A written guarantee is given with each Closet that money will be returned, after a six months' trial, and any other closet substituted in its place if this closet is not, in the fullest sense, everything that is claimed for it.



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Persons Engaged in Sanitary Enterprises,

ARCHITECTS, CONTRACTORS AND BUILDERS,

Are especially invited to examine the practical workings of

Sack's Automatic Water-closet.

Awarded First Premium at the Mechanics' Fair, held in San Francisco, 1882.

COUNTRY AND CITY HOMES.

By DAVID SALFELD.

Price, Fifty Cents each, post-paid. *Send to this Office.*

Architectural and Mechanical Books

AT WHOLESALE PRICES.

As we are closing out our stock of Shelf Books, we will dispose of those on hand at first cost.

☞THOSE IN WANT OF BARGAINS SHOULD CALL EARLY.☜

STEVEN'S PATENT CHIMNEY.

CONSTRUCTION.

This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

WM. E. STEVENS,

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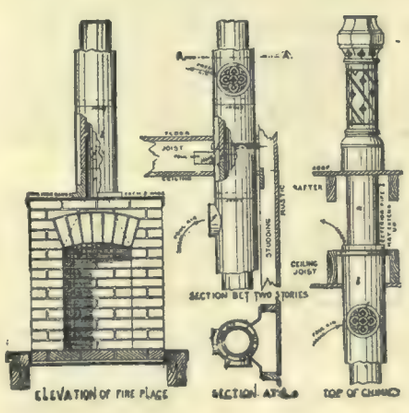

VENTILATION, ETC.

At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

The lightest and safest patent chimney manufactured.

Approved by the Board of Supervisors.

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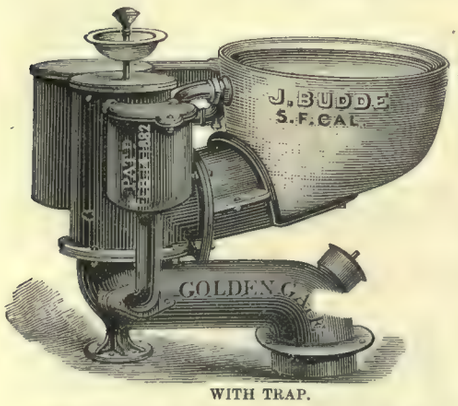
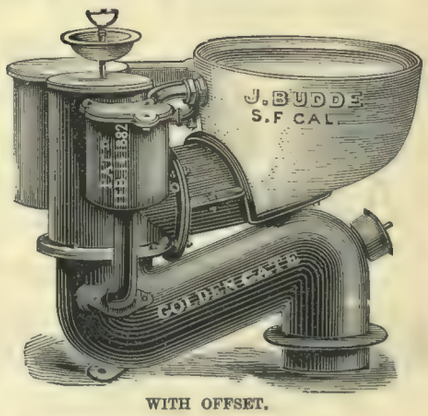
PATENT WATER CLOSETS



WITH TRAP.



WITH OFFSET.

The Golden Gate Plug Closet.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

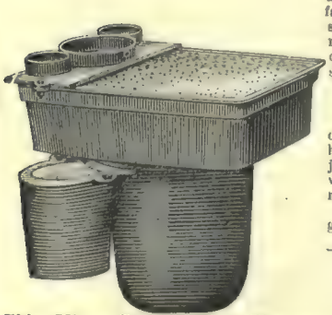
1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.



Side View, Combination Hopper

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

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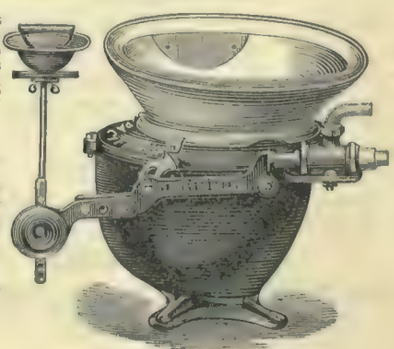

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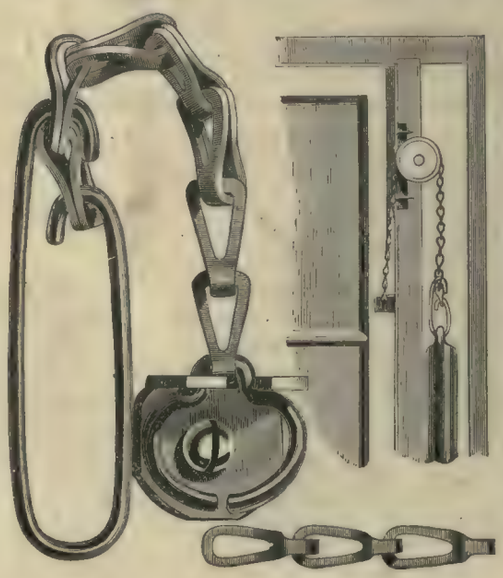

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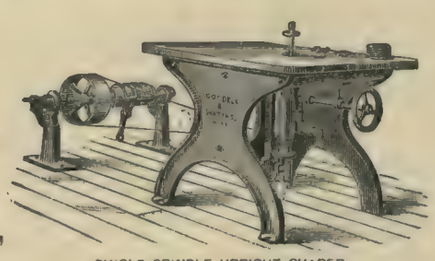

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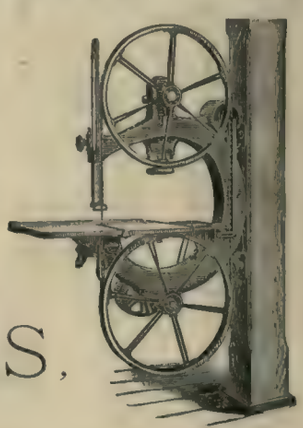

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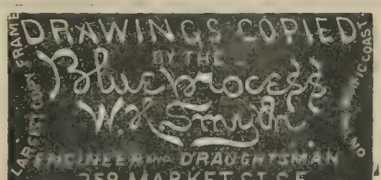

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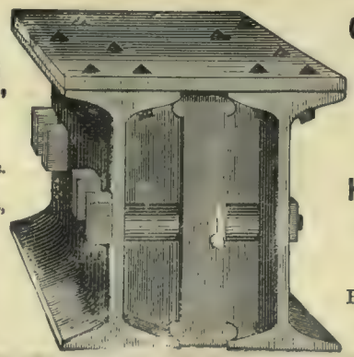

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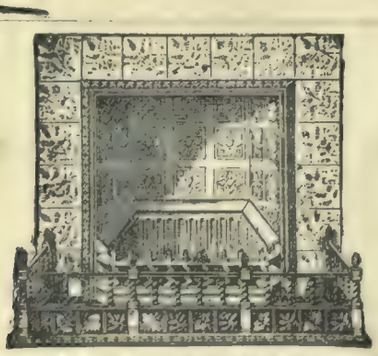

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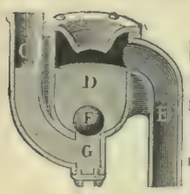

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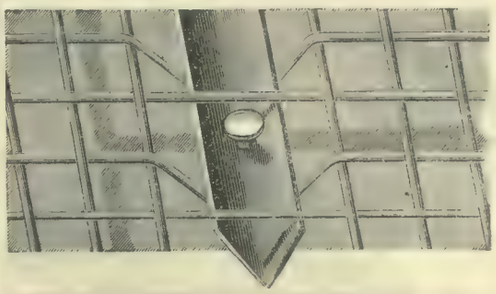

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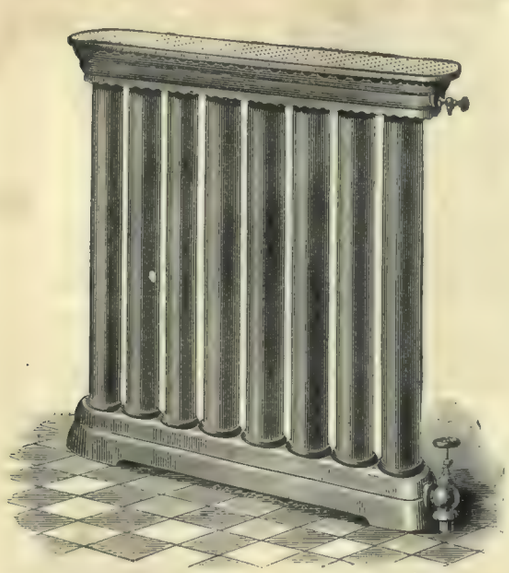

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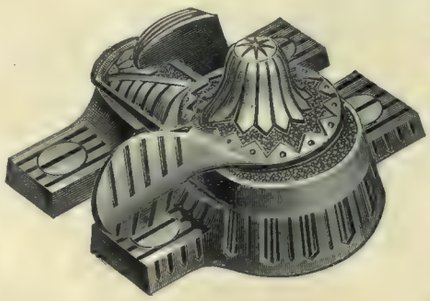

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The "GILBERTSON'S OLD METHOD" was selected by the United States Government over all competitors for the Roofing of the WHITE HOUSE at WASHINGTON.

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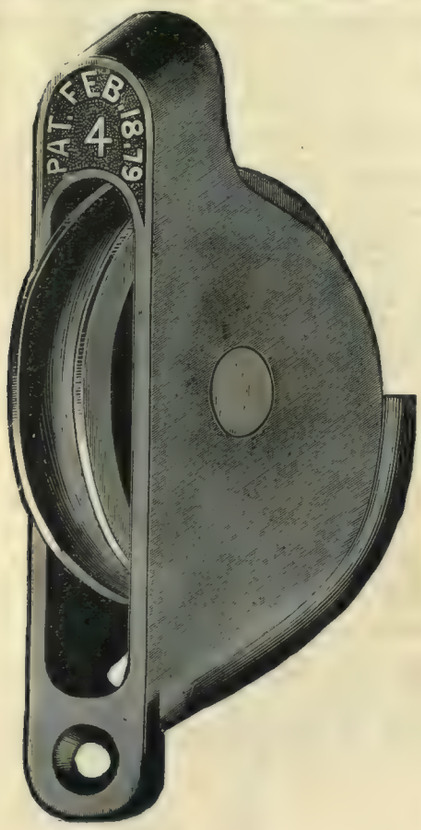

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The California Architect and Building News.

Volume VIII. Entered at Post-office, San Francisco, as Second-class Mail Matter. Established January, 1879. Number 7.

THE

California Architect & Building News.

Established January, 1879.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

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A Square is One Inch In Depth By Width of Single Column.

Advertisements alone inserted that refer to materials used in the construction and Furnishing of houses, and to matters and trades belonging to the building interest.

No Others Received.

SAN FRANCISCO, CAL., JULY 15, 1887.

The Fire Ordinances.

IN view of the fact that Acting Police Judge Page has declared order No. 1752, comprising all ordinances relating to fire matters and building construction, invalid, a general meeting of the architects in San Francisco was called and a representative number assembled on the 17th of June last to take the situation into consideration—there being no difference of opinion among the members of the profession that the order named was, and as re-enacted is, defective and insufficient. A free discussion of the subject matter was entered into, resulting in the appointment of a committee of three to prepare a petition to the Board of Supervisors asking that action be deferred in the re-passage of the order until amendatory suggestion could be prepared—it being declared invalid simply upon the technical ground of insufficient publication and requiring only proper re-publication to render it again effective.

The committee performed the duty assigned them, and although the time for completing their work was exceedingly limited, thirty-six of the most prominent architects readily appended their signatures to the petition, which was duly presented to the Board and referred without producing the result desired.

The reason for this was, as expressed by His Honor the Mayor and members of the Board, that unless the invalid order was repassed the city might be without any fire law. That while the invalidation restored the ordinance operating prior to the passage of 1752, it was not an assured fact that it would stand the scrutiny and assault of some shrewd limb of the law, who might seek and find fatal defects therein, resulting in like fate that befell order 1752; consequently, for the city's protection and safety, it became necessary to re-enact the invalid order with all its deficiencies and defects until a better could be provided. The assurance was also given that whenever a more practical form of Fire and Building Ordinance should be presented, the Board would give it attention and careful consideration, and if found to be an improvement upon the present, it would be passed.

This places the whole matter in the hands of the architects, builders, and others most directly interested to formulate a code of *Building Ordinances* that will meet every requirement of the fire department and the entire building fraternity, not including those features which may be more specially denominated *Fire Ordinances*, relating to destructive agencies, etc.

There is no disposition expressed on the part of either the architects or builders in San Francisco to antagonize the fire wardens, or the chief or members of the fire department, but there is an earnest wish that an ordinance may soon be perfected, relieved of all those features which in the past have caused annoyances, vexations, arrests, etc., for causes which if placed within the arbitration of a board of impartial, competent referees, would be given consideration according to merit, and adjusted upon equitable basis, instead of—as in the present ordinance—the same rule applying in all cases, while in fact scarcely any two are relatively equal. But if anything is to be effected in the matter, the architects or builders, jointly or severally, must take the initiative, and proceed as best judgment and experience may suggest.

Perfect Ventilation and Pure Air Essential to Human Life and Health.

THIS no intelligent person will question. It is a fact so universally understood that argument in its support is wholly unnecessary; still, while its vital importance is universally admitted, and its factorship in the healthfulness of mankind recognized, a strange degree of apathy, except in words, exists in the practical application of the means best calculated to secure this highly essential provision of the great Creator, who, in his creation of our earth, not only fixed the great sources of light in the firmament, but also surrounded the planet upon which we dwell with the prerequisite to health—pure air. As is well known, its entire absence produces death, and human life and health, in large degree, are affected by the free or restricted use of this health-giving agency.

All this being well understood, tens of thousands have employed their genius, talents, and both mechanical and scientific skill in discovering and devising the most perfect and practical method of utilizing this indispensable element in dwellings, churches, school-houses, theaters, and places where people dwell or assemble in large numbers for purposes of worship or pleasure, and as a result numerous devices have been worked out and applied that in part, at least, have produced the object sought, while but few of the inexpensive kind have gained a perpetuity beyond occasional use.

Hence it is with pleasure that we notice the invention of our fellow-townsman, Mr. P. Abrahamson, who has perfected a ventilator that must supersede all others in its simplicity, completeness, and practicability. The array of testimonials from those who have used them should be sufficient to satisfy the most scrupulous as to its effectiveness, giving, as it does, an abundant supply of fresh air without a particle of draft. It is practical for all purposes of ventilation, from the sick room to the largest structures in which people live or assemble.

Building Summary.

For the first time this year, our monthly report is larger than its predecessor in 1886. Values of reported improvements to date are far ahead of last year to similar period. During the month there have been commenced of building improvements,

70	frame buildings, value	$648,700
2	brick " "	52,500
20	alterations "	50,500
92		$751,700

The high prices of building materials is materially affecting the construction of small houses.

Price of Lumber Again Advanced.

ANOTHER dollar has been added to the price of lumber, thus making rough lumber $21 per M; rustic, $36 per M, and other kinds in proportion. Our list will be found corrected so as to correspond with latest quotations.

We sincerely hope that the "raise" will come to a halt very soon. Lumber is now 75 per cent greater in price than it was a short time ago. We repeat again that the erection of small buildings has been practically stopped on account of the exorbitant price of materials.

Wood Mantels.

THE firm of L. and E. Emmanuel is one of our largest manufacturers of wood mantels. In a conversation with these practical men the following points were brought out:—

"The old mantels in England were made of wood. It took America a long time to discover, however, that grave-yard material is not exactly the thing to incase fire-places. Why mantels made out of marble slabs should have been introduced, it is difficult in the light of present tastes to understand. They are cold and gloomy. There is a home look about a wooden mantel that is an incentive to proper home conduct. We are not prepared to say that marble mantels have caused unpleasantness that has led to divorce, but it would not be surprising to learn that they had. Pleasant surroundings lead to contentment and happiness. No one will dispute the influence of flowers, happily chosen wall decorations and works of art. White marble slabs in our parlors and drawing-rooms do not inspire the sympathetic side of human nature. The feeling is to get away from them, and there should be nothing in a home which the inmates should want to get away from. There is nothing inviting about such mantels. They are repellent. They are going fast, and let us hope that no vitiated taste will whirl them into fashion again."

Mechanics' Liens.

THE laws of nearly all the States and Territories provide for the securing and collection of builders' and mechanics' liens upon property for which materials have been furnished, or on which labor has been performed. The following is a synopsis of the general laws relating to these liens:—

A lien is lost by the voluntary surrender of the property to the owner or his agent. There is no common law lien without possession. It is a right created by law in favor of the tavern-keepers, livery-men, pasturers, carriers and mechanics. It may be created by contract between the parties, as in a lease.

Whatever is affixed to land belongs to the owner of the land, except in a few cases. Hence, carpenters who built houses on the land of others had no lien. But as the principle is just, and the practice beneficial, States have, by law, given builders and persons who furnish material a lien on the land and building, if claimed within a limited time. Under this kind of mechanics' lien, no possession is required. The right to pay the charge and take the property is a right of redemption which is lost by a public sale of the property. The surplus, if any, is paid to the owner.

Liens by State law are generally foreclosed in a court upon a petition for that purpose. By its decree the property is sold and the proceeds divided according to the rights of the parties.

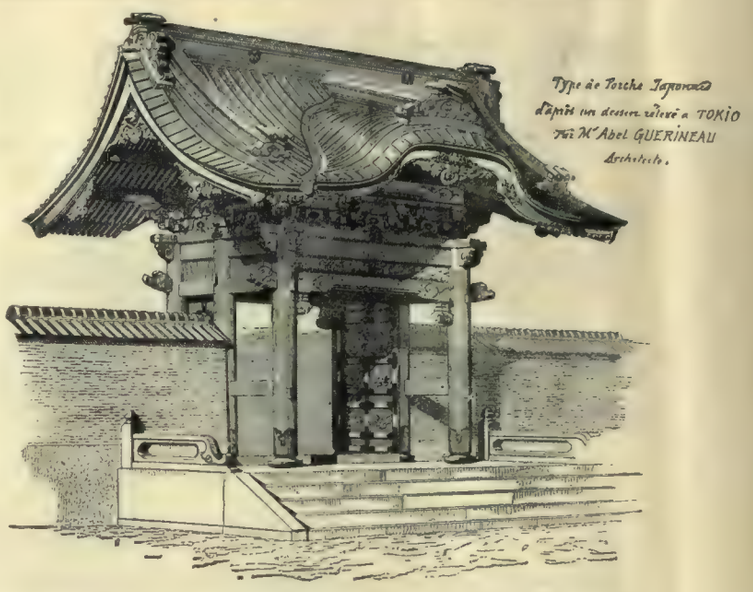
Liens may, in certain States, be enforced against vessels and wharves as well as buildings, for construction, alteration, or repairs. In most States, while the same general principle is maintained, the modes of procedure vary.

A workman desiring the protection of the law for the security of his wages, may draw up a paper, addressed to the county clerk of the county where the work was done, filled up in a manner similar to the following form, setting forth all the circumstances of the work done, his bargain with the contractor, the failure to receive his pay, and his fears that he will lose all if his lien is not made. This paper, sworn to before a justice or notary public as true, is filed in the county clerk's office and becomes a cloud upon the building, which the owner is only too glad, frequently, to remove by paying the debt himself and taking it out of the contractor's bill. In either event the owner or contractor must pay the debt if it is an honest one.

NOTICE TO THE COUNTY CLERK.

To Philip Best, clerk of the city and county of New York, in the State of New York—

Sir: Please to take notice that I, James Van Horn, residing at No. 45 Conkling Avenue, in the city of New York, in said county, have claim against William Y. Heath, owner (or only contractor, as the case may be)



of a new two-story brick dwelling-house, amounting to Nineteen Hundred and Sixty-two Dollars and forty cents, now due to me, and that the claim is made for and on account of brick furnished and labor done before the whole work on said building was completed, and which labor and materials were done and furnished within three months of the date of this notice; and that such work and brick were done and furnished in pursuance of a contract for twenty thousand serviceable brick and the mason work of putting up the outer walls of said new building, between the undersigned and the said William Y. Heath, which building is situated on lot ——, in block ——, in Westel's Addition to the city of New York, on the west side of Salina Avenue, and is known as No. 432 of said avenue. The following is a diagram of said premises:

[*Insert diagram.*]

And that I have and claim a lien upon said dwelling-house and the appurtenances and lot on which the same stands, pursuant to the provisions of an Act of the Legislature of the State of New York, entitled, "An Act to secure the payment of mechanics, laborers, and persons furnishing material toward the erection, altering, or repairing of buildings in the city of New York," passed, —— 18—, and of the Acts amending the same.

James Van Horn.

New York, December 1, 1882.

James Van Horn, being duly sworn, says that he is the claimant mentioned in the foregoing notice of lien; that he has read the said notice, and knows the contents; and that the same is true to his own knowledge, except as to the matters therein stated on information and belief, and as to those matters he believes it to be true. James Van Horn.

Sworn before me this first day of December, A. D. 1882.

J. L. Leslie, *Police Justice.*

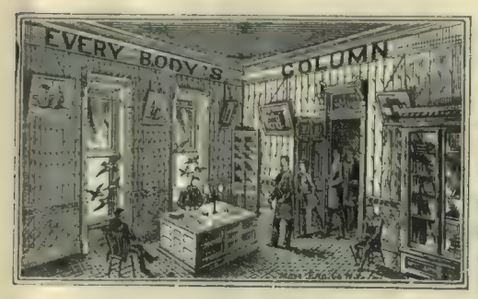
The lien laws of certain States provide that any person who shall either labor himself, or furnish laborers or materials for constructing, altering, or repairing any building, shall have a lien therefor upon such building and the specific lot or tract of land on which it is located; but a suit to enforce payment of said claim must begin within six months from the time the last payment therefor is due. Landlords, also, may enforce a lien for arrears of rent upon all crops of their tenants, whether growing or matured.—*Hill's National Builder.*

A Remarkable Tree.—A Nevada paper describes a remarkable kind of wood which is said to grow there. The trees do not grow large, a tree with a trunk about a foot in diameter being much above the average. When dry the wood is about as hard as boxwood, and being of a very fine grain, might, no doubt, be used for the same purposes. It is of a rich red color and very heavy. When well seasoned it would be a fine material for the wood carver. In the early days it was used for making boxes, for shafting, and in a few instances for shoes and dies in quartz batteries. Used as a fuel it creates an intense heat. It burns with a blaze as long as ordinary wood would last, and is then found—almost unchanged in form—converted into charcoal that lasts twice as long as ordinary wood. For fuel, a cord of it brings the same price as a ton of coal. Unfortunately it burns out stoves faster than any kind of coal.

DRAUGHTSMEN SCARCE.

Still the demand for draughtsmen is unabated, and many architects are really pressed for help. We can readily place twenty first-class draughtsmen in good positions. Any information will be furnished upon application to this office, either in person or by letter.

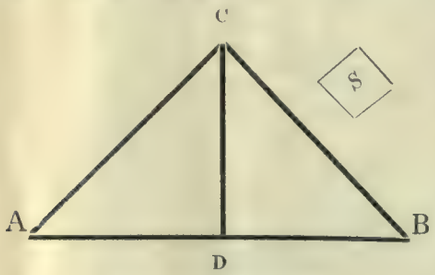
ASKED, ANSWERED, and COMMUNICATED.



☞Architects, Contractors, Carpenters, and mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them, and we will make the cuts. We especially invite suggestions from apprentices and young mechanics.

Two Steel Square Problems.

TO DETERMINE by the steel square the result of any number, for example—6 multiplied by the sin 45°: Take 6 on both blade and tongue, and mark the line AC = BC = 6. Then CD drawn to the middle of AB = 6x sin 45°. Sin 45° = 0 70711.



STEEL SQUARE PROBLEM.

Problem.—Referring to any rectangular frame-work which slopes alike on all four sides. *Given*—The rise and seat of the corner-posts. *Required*—The cuts for the ends of the corner-posts, the blade of the bevel to be applied to the two faces adjoining to the ridge-line.

By the Steel Square.—On the blade take the rise. On the tongue take the seat x sin 45°. Mark along the tongue. The angle made by the tongue and the line is the proper bevel.

Problem.—Given—The run and rise of a common roof. We wish to place upon it a perpendicular square pipe to stand upon the roof diamond-shaped, thus: ◇S◇. *Required*—The cuts for the bottom end of the pipe; the blade of the bevel to be applied to the two faces adjoining the lowermost vertical edge.

By the Steel Square.—On the blade take the run of the roof. On the tongue take the rise x sin 45°. Mark along the tongue. The angle made by the tongue and the line is the proper bevel.

If the bevel is applied to mark the end of the higher half of the pipe, we have only to reverse the direction of the stock of the bevel so as to mark an obtuse angle.

These two problems are very much alike. Their demonstration is a good study in solid geometry.—*Fred Lascy, in Builder and Wood Worker.*

To remove paint and putty from window glass put sufficient saleratus into hot water to make a strong solution, and with this saturate the paint or putty which adheres to the glass. Let it remain until nearly dry, then rub off with a woolen cloth.

Architectural Pupilage.

MR. WILLIAM WOODWARD, an English architect, gives a father the following advice concerning instruction for a son who expects to become an architect:—

1. Do not think that he is in a fair way of doing justice to himself, or to his master, by confining his studies to the office hours. Home studies, schools of art, and the other accessible fields of morning and evening architectural education, are absolutely necessary.

2. Do not think that your son has acquired much more than the rudiments of his business at the end of three or five years of pupilage, or that the architect with whom you have placed him will be able to inject into him the knowledge which his master has taken thirty years of practice to acquire.

3. At the end of his three or five years of pupilage, put him into another architect's office for, say, another five years, as an improver. This will enlarge his mind, and get him out of a few awkward grooves into which he slipped in the first office; or, better still, if within your power, let him commence practice on property which is entirely your own.

4. Unless you have friends who will secure him employment at the end of his educational career, settle the largest annuity upon him; he will require it.

5. There are abundantly ample (perhaps too many) sources of architectural knowledge open to your son; the rest is in his own hands.

A PRACTICAL HINT.—This was the way a country blacksmith was seen removing that portion of the ax handle from the ax that remained in the eye, the break being close to the iron. The wood could not be driven out, and as nails had been driven in at the end, it could not be bored out. He drove the bit, or sharp edge, into moist earth, and built a fire around the projecting part. The wood was soon charred so that it was easily removed. The moist earth so protected the tempered part of the ax that it sustained no injury.

FOR glue to be properly effective it requires to penetrate the pores of the wood, and the more a body of glue penetrates the wood the more substantial the joint will remain. Glues that take the longest to dry are to be preferred to those that dry quickly, the slow-drying glues being always the strongest, other things being equal. For general use no method gives such good results as the following: Break the glue up small, put into an iron kettle, cover the glue with water and allow it to soak twelve hours; after soaking boil until done. Then pour it into an air-tight box; leave the cover off until cold, then cover up tight. As glue is required, cut out a portion and melt in the usual way. Expose no more of the made glue to the atmosphere for any length of time than is necessary, as the atmosphere is very destructive to made glue. Never heat made glue in a pot that is subjected to the direct heat of the fire or a lamp. All such methods of heating glue cannot be condemned in terms too severe. Do not use thick glue for joints or veneering. In all cases work it well into the wood in a similar manner to what painters do with paint. Glue both surfaces of your work, excepting in case of veneering. Never glue upon hot wood, or use hot cauls to veneer with, as the hot wood will absorb all the water in the glue too suddenly, and leave only a very little residue, with no adhesive power in it.

THE DAM AT SAN MATEO.—A remarkable dam is about to be constructed by a water company at the San Mateo Cañon, four miles from San Mateo, Cal., in order to form a reservoir. The cañon is very narrow and steep, and 15 feet below the bottom is a solid rock on which the foundation of the dam will rest. The structure will be 170 feet high, 175 feet wide at base, 20 feet at the top, and 700 feet in length. It will be the largest stone dam ever known to have been built. The dike will have a curvature of eighty feet, and the convex side will be upstream. The material will be a new sort of concrete composed of stones. The walls will be perfectly smooth. The reservoir that will be formed by it and the adjacent hills will be about eight miles in length and 150 feet deep in the deepest places. Its capacity will be about 32,000,000,000 gallons. The water will be conveyed by tunnels to the city of San Francisco.

PAINT on the walls of a kitchen is much better than kalsomine or whitewash. Any woman who can whitewash can paint her own kitchen. The wall needs first to be washed with soapsuds, then covered with a coat of dissolved glue; this must be allowed to dry thoroughly, and then covered with paint. A broad flat brush does the work quickly.

IN times now long past, flooring strips were supposed to be thoroughly seasoned before they were put down, but now the tree that stands in the forest to-day may form the floor that is laid a week or ten days hence.

WHEN cleaning a stove, if a small quantity of sugar is put into the stove blacking it will not burn off so quickly.

A PORTABLE SAW MILL.

THE above engraving represents a familiar scene to those who have watched the gradual clearing of our forests. In certain localities the timber, from a distance, looks like an immense forest, capable of yielding millions of feet of lumber; but, upon close inspection, the area is very limited that will furnish material for first-class lumber. Again, there are regions that seem to require just so much lumber. The portable mill shown in cut is especially adapted to just such places. Easily moved from place to place, and with a cutting capacity of many thousands of feet per day, the mill recommends itself to the consideration of those who are endeavoring to build up new towns. Full particulars can be obtained by addressing the J. I. Case Co., Racine, Wis.

The Essentials of Perspective.

A New Work, by L. W. MILLER.

THE aim of the book is to simplify and make real the basic laws underlying the draughtsman's art, in the hope that correct habits of thought and expression will aid in developing an art that will be symmetrical and harmonious, and not disfigured by the errors too often noticed in the work of our artists.

The point of view throughout is that of the artist rather than the merely scientific theorist, and the result is a thoroughly practical and simple text-book free from all unessential or theoretical discussion.

The style is clear, direct, and practical, and its instructions are happily supplemented by the numerous drawings which the author informs us "are the same that he has used for many years in teaching perspective from the blackboard." They therefore have the merit of practically illustrating the fundamental principles of the science, and are purposely made free from burdensome details in order that the applications made may be apparent at a glance.

PRICE, $1.50.

We will send a copy, post-paid, to any address upon receipt of the publisher's price, one dollar and fifty cents.

Agreeable Colors.

THE most agreeable colors are those difficult to name which seem to tremble on the verge of another color. Both white and black are, in nearly every case, enriched and improvised by judicious tempering with other colors. Thus white will be improved with a dash of yellow or red for warmth, blue or green for coldness, so that a green tinted white will look best in a pattern where there is much Indian red, and a pinky white may be opposed to much blue or gray. Black is always improved by the addition of a little blue, in which we follow nature, who rarely employs black unmixed with other color. Black is, after all, a relative color, requiring contrast to advantageously set it off. Under certain circumstances, where it would have a harsh or unpleasant effect, burnt umber may be made to stand for it. It is noticeable that emerald green, so beautiful in itself, regarded as a color, is terribly self-assertive.—*Painters' Magazine.*

The Pyramids of Ghizeh.

UPON the western banks of the Nile, within a few miles of the renowned city of Cairo, are to be seen the wonderful tombs of Egyptian kings, the pyramids.

Although there are many such structures scattered over the sands of the desert, the three pyramids at Ghizeh command our attention as the most remarkable evidence of mechanical skill and constructive genius of all ancient works. The largest pyramid, as shown by our illustration, stands upon the rock plateau of the Nile, a few hundred feet from its banks, and is the grandest edifice—if it may be so termed—ever erected under the Egyptian monarchs.

The largest, or the Pyramid of Cheops, was 480 feet high, and its base is a square measuring 764 feet, and covers an area of about thirteen acres. It is constructed of an almost solid pile of stone masonry, consisting of about two hundred courses, each gradually receding back of the other until the top is reached, which originally was a point, but is now a platform thirty-two feet square.

It is believed that these pyramids were covered with an outer casing of stone or marble. The great pyramid, however, was covered with syenite, red granite, brought from a quarry situated near Syene, nearly 500 miles from Ghizeh. Many remains of this ancient covering are to be found at the base of this pyramid, while a portion of it still remains in place. The theory that these stupendous structures were erected for the purpose of kingly tombs, is evinced from the fact that part way up the side upon the north face is to be found a small opening, that originally was sealed up and covered over, probably for ages. Connecting this entrance were long, narrow passages, terminating in small sepulchral chambers, that originally contained the mummy case of the dead. These have long since been removed by relic hunters and explorers.

Pyramid of Cheops and the Sphinx, Remarkable as a Work of Masonry and Sculpture.

The four faces, or sides, of the pyramids are directed to the four cardinal points of the compass, proving that the ancients were acquainted with the laws that govern modern science.

One of the wonderful features of these grand structures, from a mechanical point of view, is the large size of some of the stones used. They gradually vary from the largest at the bottom, from six feet square by sixteen feet long, to three feet by eight feet, the platform at the top being formed of nine large stones, each weighing a ton. When we contemplate the complicated machinery required to raise these blocks to a height of five hundred feet, we are nonplussed; but when we realize that many of these massive blocks, weighing from ten to thirty tons, were brought from four to five hundred miles, we are amazed at the resource, genius, and constructive ability of that singular and remarkable race of people, the ancient Egyptians.

THE SPHINX—THE GIGANTIC MONUMENT OF ANTIQUITY—A REMINISCENCE OF EGYPT.

A few years ago the editor of this journal terminated a long and interesting tour of Egypt at Cairo, within the shadow of the prehistoric pyramids, and surrounded by the mighty relics of the Egyptian dynasties. Standing on the banks of the historical Nile, and looking out upon that almost unknown sea, the great desert, whose rolling sands have for ages buried many gigantic works of the ancients, our attention is arrested by those huge piles of masonry, which serve as tombs for numberless dead, and which we have learned to call the Pyramids of Ghizeh. Within three hundred paces of these colossal ruins stands the most striking object to be found in Egypt.

As if keeping sentinel over the downfall of a mighty people, guarding the sacred relics from the hand of the modern vandal, the Sphinx, that colossus of monolithic structures, raises its head above the ever-drifting, restless sands. Its face turned toward the east—staring into vacancy and the events of centuries—gigantic, majestic, awe-inspiring, it has witnessed the flight of time for nearly seven thousand years, witnessed the birth and fall of dynasties, the rise and decline of empires, the origin and destiny of Republics.

The archæologist, who wanders amongst the ruins of ancient Egypt, soon learns that upon that ancient highway, the Nile, are to be found the stupendous and gigantic structures that seem to have exhausted all human resources and rules of mechanics; the lofty walls and monolithic columns of Carnak and Luxor, the colossal statues of Memnon and Rameses, the Caryatidic Temple of Ipsambool, all strike the beholder with a profound awe and reverence, not only for the mighty works themselves, but the resources and deeds of a powerful and potent people.

The Sphinx, in comparison with the great stone structures of Egypt, stands pre-eminently the grandest work of time. Of an uncertain era, yet belonging to prehistoric ages, its workmanship bears witness to a period of educated art that even the lapse of ages, and the hand of time, have not obliterated.

It has generally been supposed that the Sphinx was a stone image entire, partaking of the head and shoulders of a man, and the breast and body of an animal, as many of the Sphinxes of Thebes and Carnak were formed, but recent excavations have dispelled the idea. It was demonstrated by Caviglia, in 1816, that the Sphinx of Ghizeh was shaped from a spur of solid rock, and that instead of being a body formed from the rock itself, it is little more than a gigantic head, 172 feet long and 56 feet high. The length is derived from what would seem to be the rear end of the spur or rock to the nose. The height is from the neck to the top of the head.

The rock in front of the figure or breast was removed by the ancient builders to a depth of fifty feet below the neck, or level of the sand on the pyramidal plateau, near which the Sphinx stands.

Caviglia found, upon removing the sand which had for ages accumulated about the breast of the figure, that two thousand three hundred years ago there existed a small nave or temple, built in front of the breast. This chapel was formed of three tablets, dedicated by the Egyptian monarchs, Thothenes III. and Rameses II., to their deity, the sun, of which the Sphinx was the emblem. These tablets formed the three sides of the temple, the fourth being composed of doors, on either side of which were recumbent lions, as if guarding the entrance. Opposite the doorway was placed a miniature altar, supported between the forepaws of a lion. This is believed to be of Roman origin. In 1869 another effort was made to excavate the statue that had become buried to the neck by the ever-drifting sand, when it was found that surrounding the Sphinx, nearly circular in form, was a flight of stone steps descending from the surrounding plateau to the temple before spoken of, and it is now believed that the statue stands in the midst of a circular basin of stone, hollowed out of the solid rock, and that the Sphinx was left in the center, while the surrounding rock was excavated. The rock from which the figure is cut is the common granite to be found on the Nile, and from which much of the work is constructed that lines the banks.

Upon examination it will be found that the Sphinx has been repaired by the introduction of blocks of red syenite or granite, but this work is generally supposed to be of Roman origin. Much of the stone used for this purpose seems to have been

Design for a Suburban Residence to be Built of Stone.

brought from the neighboring temple of Khafra, which was constructed of red syenite.

We note that at present renewed efforts are being made under the supervision of Messrs. Maspero and Grebaut, the noted engineers, to excavate the figure. Already the level of the platform temple and steps has been reached, after a continued labor of fifteen months, and it is expected that the excavations will be so far continued that we shall know more of the origin and purpose of this gigantic sentinel of the desert.—*Hill's National Builder.*

Working Without Thinking.

THE practice is too common for the mechanic to work without thinking. Having learned a trade he goes through a daily routine, which is so familiar that he could almost do it with his eyes closed, or in the dark. The part he has to do probably has little or no variety in it, and he settles down to the conclusion that there is no avenue open to him for advancement. He works like an inanimate machine, which, when the power is on whirs away day in and day out, until it is worn out, and unfit for further duty.

The unthinking workman does not closely observe even his own field of operation, and therefore never suggests any improvement in methods or material. A worker in woods, of this type, never stops to inquire from whence his supply of wood is obtained; when is the best time to cut timber, the better method of seasoning it, its extreme strength and durability; nothing is thought of beyond the mere fact that it is to be worked up into wheels, bodies, buildings, etc., as the case may be. Should anyone put the question to him covering either of the above, he would very likely give the curt reply that he had not time to bother his brains with such things, as they would be of no value to him.

The above model will serve for mechanics of every kind. It is a fact that some of the most valuable improvements have been thought out by men who worked at an entirely different branch from that to which the improvement pertained. In the carriage line the body-maker has invented a new kind of spring, axle, or something else. The blacksmith may have studied out an improvement on the sewing machine; the painter, a new tap and joints, and the trimmer has brought to light a patent priming or filler for woods. One's own trade seems to warp the mind, and from its monotony cause a lack of interest therein, beyond a desire to push it through and get done with it.

Now, if the skilled workman would take greater pride in his calling, and endeavor to master its every feature by long and arduous study, there would soon be wonderful advancement in the mechanic arts.—*Painters' Magazine.*

Harvey's Hot Water System of Heating.

THE difficulty of obtaining a uniform distribution of heat in buildings warmed by hot-air furnaces is well-known, and this difficulty has been met and overcome by an ingenious device consisting of a water-back in the furnace and water radiators in rooms remote from furnace where more heat is desired; this is produced by hot-water circulation, a very superior method of heating all kinds of buildings, especially dwelling-houses. The advantages in the use of this improvement in ordinary hot-air furnaces will be readily seen and appreciated by anyone familiar with furnace and hot-water heat. The hot-water circulation begins as soon as the furnace fire is started and the heat of the radiators increases and diminishes with the heat of the furnace and continues long after the furnace fire is out. Just here is where the economy comes in, and it is one of the principal advantages that this combination possesses over that of the combination hot-air and steam furnace where no heat is derived from radiators until steam is made, and should the fire become too low to make steam the radiators get cold.

The Bundy Hot-water Radiator, with vertical tubes and its upper and lower circulating chambers, is perhaps the most efficient, and is pronounced by those who have used it the quickest circulator on the market. It has been extensively used in Canada, England, and the United States for the past three years.

The cost of such an appliance is very moderate.

Its economy is unquestionable.

Its durability is the strongest argument favoring its use.

The comfort afforded and the advantages to health are of the most practical importance.

It is equally adapted to the *small cottage* or the largest residence.

In building a new house a large proportion of the expense of this system can be saved by discarding the extra chimneys and mantels, one chimney being sufficient.

It can readily be introduced into houses already occupied without damage to the walls, furniture, or carpets.

C. D. Harvey not only introduces the Bundy Radiator, but also the Harvey Hot-water Radiator and Furnace, to the attention of those who desire first-class methods of heating houses.

Mr. Harvey has been in this city over TEN YEARS and has introduced his system in over five hundred different houses. Upon application he will furnish a list of testimonials in accordance with the above.

Mr. Harvey can be found at 30 New Montgomery Street, corner Jessie. He has the largest stock, embracing all the latest improvements in the heating line, to be found west of the Mississippi Valley.

The Essentials of Perspective.

BY L. W. MILLER.

I WISH for a moment to consider the principles of perspective as applied to fixing the sizes of the objects represented. In the first place, let it be clearly understood that the only measurements which are of any consequence to the draughtsman are *relative* measurements. As far as the artist is concerned, he never thinks of any others; but architects and others who work from plans and elevations which are drawn to scale, do indeed use the actual measures, because in their case that is the most convenient way, but even then the actual measures become relative as fast as they are applied to the drawing, and these last are the only ones which appear in the result.

The term "drawing to scale," an expression constantly used in connection with the construction of geometrical plans and diagrams, has absolutely no significance when applied to a drawing in perspective. You may draw two or three lines in it by scale if you wish, but all the others will have to be measured by means of these; and even the first two or three may be put in just exactly as well without reference to any scale at all, and indeed much better, as far as producing a good effect is concerned. No one can tell in looking at a perspective drawing whether a building is twenty feet high or fifty feet, except by comparing it with some other object for which we carry a fairly accurate standard in our minds. Steps, for example, are of about the same height for all kinds of buildings and furnish a pretty good standard by which to measure other things; and lamp posts, gateways for foot-paths, etc., serve a similar purpose. The commonest and surest standard of heights is, however, the human figure. The horse answers pretty well, but you are not so sure of him. A pony may easily be mistaken for a horse, but a child will never be mistaken for a man if he has been drawn in any respectable fashion; and so the magnitudes of a picture become intelligible the moment the human figure is introduced.

Two kinds of measurements are employed in making pictures. The first enables us to determine the apparent size of an object with reference to some very obvious dimension—its height, for instance; the other relates to the foreshortening of objects, and to fixing distances between them, along lines which run to a vanishing point.

Look at the small engraving at top of page. It is quite a different, and a very much easier, matter to determine how high one driver's head ought to be, as compared with the other's, than it would be to measure the distance between the two. Now the length of the house might be compared with that of another one which was known to stand parallel with it—supposing such an one had appeared in the picture—by just such a process as that employed to determine the relative heights of the two men; but the width of the end of the house—which, as you see, faces the road—would have to be determined by the same method as that which would be employed to measure the distance between the carts.

The same is manifestly true of the spacing of the posts in the fence, or of the widths of the windows, and, generally, of all distances which one has occasion to measure along lines, which are said to "run into the picture," because they go to a vanishing point.

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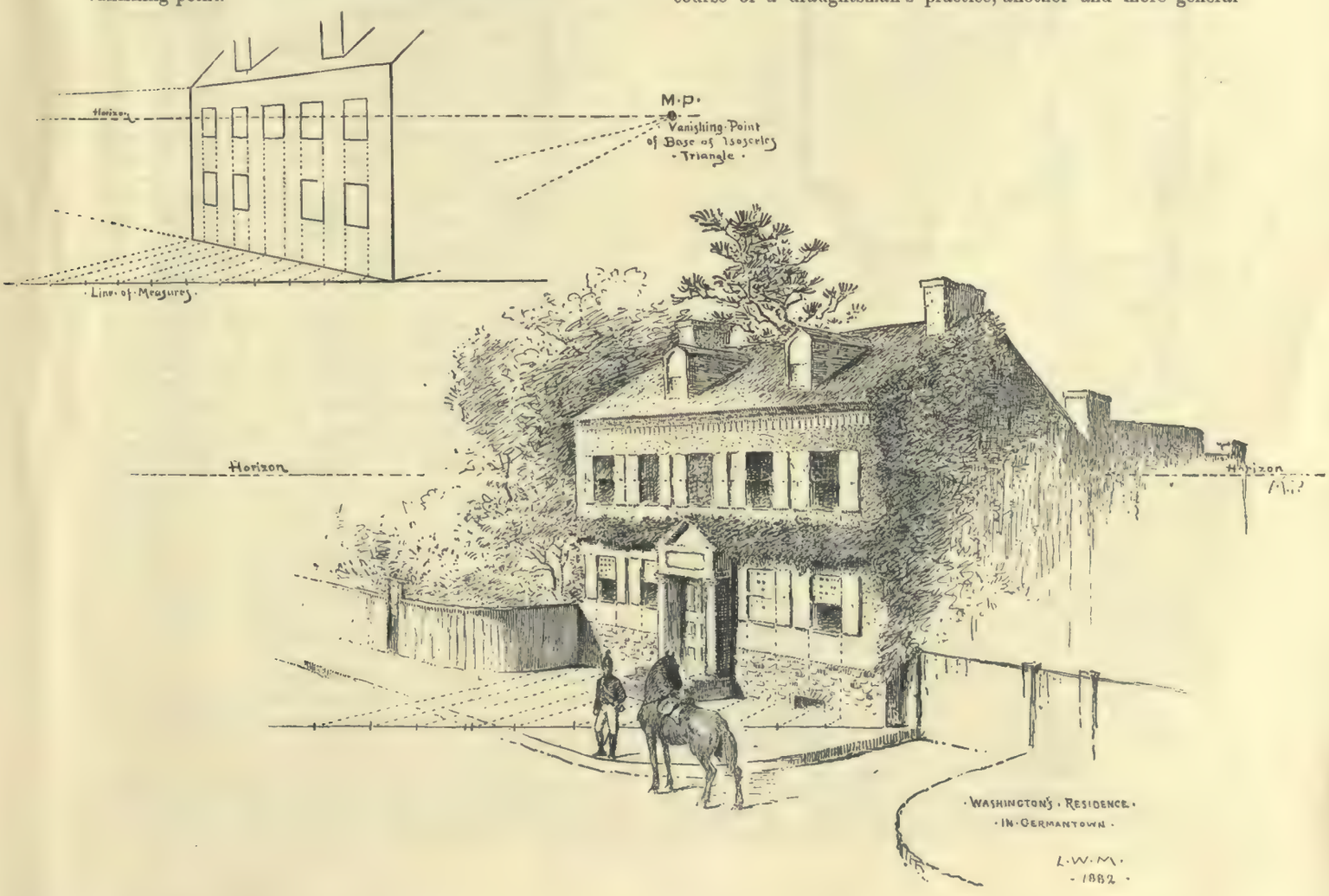
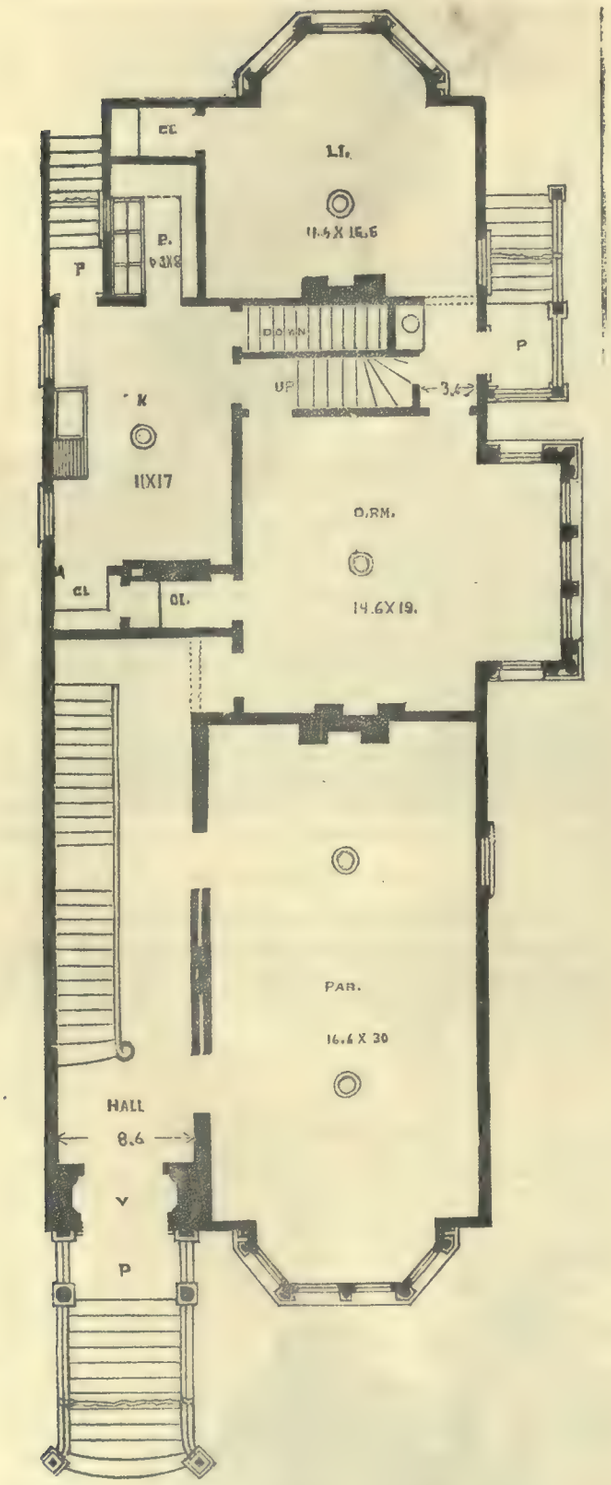
MEASUREMENTS BY MEANS OF TRIANGLES.

If the method of measuring by means of diagonals of squares is not applicable to every case that can possibly arise in the course of a draughtsman's practice, another and more general





statement of what really amounts to the same principle, will be found to be so; and as the greater includes the less, this other method might have been described in the first place, and all that has been said about diagonals omitted; if the method explained had not been not only simpler, and for that reason more convenient whenever it was applicable (and it almost always is, as artists use perspective) but being somewhat easier to understand, its discussion beforehand serves a very good purpose.

If in measuring the windows in a previous study it had also been necessary or desirable to determine the exact length of the house itself, the reader will see that we have not yet learned enough about perspective to do it; there is a way, however, of fixing such measures.

The width of each window and the length of the house itself in our large sketch shown were fixed in this way—at least they might have been so determined, if the drawing had been made to measure instead of being sketched on the spot.

The line to be measured is, in this case, the ground line of the front of the house. Let us measure its length first and attend to the windows afterwards. We have seen that any measures we may have occasion to use must be set off, if we are to be sure of them, on some line that is parallel to the picture plane, and that such a line is always parallel to the horizon of the plane in which it lies; that is, it is always parallel to the original or actual horizon when drawn on level surfaces and always vertical or upright when drawn on vertical surfaces, and so on. Our observations at the screen taught us that long ago. Such a line is drawn, then, in such a position as to have one point in common with the line to be measured. Theoretically, this may be wherever you please, but in practice it will usually be most convenient to draw this imaginary line through the nearest end of the line to be measured. As it is never used for any other purpose, it may be called the "line of measures."

The point which was called the vanishing point of diagonals in preceding figures, has been called the vanishing point of the base of the triangle in our large engraving (see the little diagram in the corner).

This name is a good one, because it does not allow the student to forget the real significance of the point, something which pupils find it very easy to do; but it is too long, and we shall have to call the point simply "measuring point"—only do not forget that it always *is* the vanishing point of the base of an isosceles triangle, otherwise it would not be of the slightest use as a measuring point. If your picture necessitates the establishing of many measurements, you have to regard it as in good part covered with pictures of isosceles triangles the bases of which all vanish at one or other of these points.

The above is taken from a new work (by publisher's permission) entitled, "The Essentials of Perspective." We have carefully read the book and can confidentially recommend the same to anyone desiring to become proficient in perspective drawing.

Boys as Inventors.

SOME of the most important inventions have been the work of mere boys. The invention of the valve motion to the steam engine was made by a boy. Watt left the engine in a very incomplete condition, from the fact that he had no way to open or close the valves, except by means of levers operated by the hand. He set up a large engine at one of the mines, and a boy was hired to work these valve levers. Although this was not hard work, yet it required his constant attention. As he was working these levers he saw that parts of the engine moved in the right direction, and at the exact time that he had to open or close the valves. He procured a long, strong cord, and made one end fasten to the proper part of the engine, and the other end to the valve lever. Then he had the perfect satisfaction of seeing the engine move off with regularity of motion. A short time after, the foreman came around and saw the boy playing marbles at the door. Looking at the engine he soon saw the ingenuity of the boy, and also the advantages of so great an invention. Mr. Watt then carried out the boy's inventive genius in a practical form, and made the steam engine a perfect automatic-working machine. The power loom is the invention of a farmer boy who had never seen or heard of such a thing. He cut one out with a knife, and after he had got it all done, he with great enthusiasm showed it to his father, who at once kicked it to pieces, saying that he would have no boy about him who would spend his time on such foolish things. The boy was afterward apprenticed to a blacksmith, and he soon found that his new master was kind and took a lively interest in him. He made a loom of what was left of the one his father had broken up, which he showed to his master. The blacksmith saw that he had no common boy for an apprentice, and that the invention was a very valuable one. He immediately had a loom constructed under the supervision of the boy. It worked to their perfect satisfaction, and so the blacksmith furnished the means to manufacture the looms, the boy to receive one-half the profits. In about a year the blacksmith wrote to the boy's father that he should visit him and bring with him a wealthy gentleman, who was the inventor of the celebrated power loom. You may be able to judge of the astonishment of the old man when his son was presented as the inventor, who told him the loom was the same as the model he (the father) had kicked to pieces but a year before.

Cyrus H. McCormick was not twenty-two years old when he produced the first practical reaper the world ever saw. Numerous other instances where boys produced valuable inventions might be cited.

In building book-cases, there should be a half-inch space between the shelf and the wall—dust can then be easily brushed back, falling to the bottom.

Useful Hints Relating to House Building.

IN building a house for myself, to cost about $5,000, what are the special points which I must watch—points which may be overlooked by the architect or contractor, because, perhaps, not properly in their province, or because the owner should himself know them? I have never yet built a house, and am, in consequence, wholly inexperienced—an easy prey to imposition and mistakes.

The writer having had some experience in building houses as an owner, and paid somewhat dearly for it, proposes in this article to indicate some of the points desired.

In the first place, be most careful in the choice of your lot. Do not allow the cost per foot to be the most important element in your decision. A low-priced lot in the beginning may be the dearest in the end; that is, if it is chosen simply because it is low in price. Avail yourself as much as possible of the benefit of others' improvements. If there are desirable residences adjacent to the lot of your choice, the value of yours will be assured at the outset. Remember that you are about to put a certain sum of money upon whatever lot you select, and that a badly located lot will decrease the value of this; while, on the contrary, a good lot will enhance the value. Many have suffered disappointment, and actual loss, by an error of judgment in this regard. Your choice will make the difference between a good asset and a poor one.

Having chosen well to this point, see to it in the second place that the lot can be easily drained. To this end, it is not necessary that the ground should be high, but rather that it have a slope in some direction; otherwise, owing to the soakage into the ground of the surface water, which ought to run off, your cellar may be damp or wet at times. A dry cellar is of the utmost importance, and this is one of the ways to secure it.

Another point to be considered in your choice should be the exposure it would give your house. By this we mean the way it should front. A wise decision here will conduce greatly to the comfort and health of your family. The writer's experience is that the best frontage or facing for a house is a little west of south. This, more than any other, opens up the rooms to the sun in the winter and to the southwesterly breezes in the summer, thus making the house warm, healthy, and cheerful in the former, and cool and delightful in the latter, as the prevailing winds during the summer are from the southwest. At the same time, they carry away from the house the odors and heat of the kitchen; and during the winter the living part of the house is protected from the cold northerly blast.

A good size for the lot for a house to cost about $5,000 is 60x 150 feet. If a stable in the rear is needed, the lot should not be less than 175 feet deep.

The next subject to be settled upon is the plan and specifications for such a house as your limit of cost will cover. This is a most difficult undertaking, and often ends in disappointment, usually because too much is expected for a given sum of money.

If style of interior and exterior is required, the size must be curtailed. If the rooms must be spacious and numerous, then the style and finish must be plain and unpretentious, both within and without. Of one thing be assured—everything cannot be obtained for $5,000 at the present cost of labor and materials.

This point fully understood, the writer has found that the quickest and best way to get the plan desired is to look at houses already built in the immediate or adjacent towns, which approximate to the cost named. Among the many which are now to be seen in all our suburban towns, there will be no difficulty in finding a house which will entirely satisfy the requirements. No mistake can then be made in the cost, for the builder himself is near at hand to duplicate for you, for a definite sum, the house you may select.

Disappointment in architectural effect will not happen, because you can see beforehand what an appearance the finished house will present.

It is better far to go to an architect with ideas well defined of what is wanted, and to ask of him to add to these his own taste and skill, than to go (as many do) with nothing settled in the mind but the cost, and to require of him to produce something entirely original in design and finish. His effort to fill such an order is generally a failure, not from any want of skill on his part, but rather because of his inability to grasp the intangible and indefinite ideas which may be in the mind of another. He must have some standard to work up to besides simply the cost.

If the architect succeeds in his effort as to the plan, you may consider you have made a fortunate beginning.

The specifications come next. As for these, let them be most carefully drawn, leaving nothing open, indefinitely or obscurely stated. Have them so drawn that they cover everything you want; otherwise you will have extras, which are always very costly.

It is a remarkable fact that anything taken from the specifications, after the contract has been signed, you can get no allowance for, but anything added to them greatly increases the cost. Why this should be so, only the contractor can tell you, and he generally will not. Hence, you must plan beforehand so as to avoid them, or, in the pithy words of the late Rev. Henry Ward Beecher, "First think out your work, and then work out your thoughts." This applies pre-eminently to building operations.—*Scientific American.*

THE principal object of this publication is to furnish information, IN ADVANCE OF CONTRACTS, to architects, builders, contractors, and all those directly interested in furnishing materials of all kinds for buildings, bridges, plumbing work, machinery, and the thousand and one trades that are benefited by all kinds of building improvements. One great feature of this journal is the furnishing of special information to its yearly subscribers, having a special system of its own in this regard. It is published by B. Edwards, Chicago, and the subscription for the weekly edition is $5.00 per year. Subscriptions may be left at this office or sent direct to Mr. Edwards.

The Top of the Redwood Tree.

FROM time to time we have given engravings showing the stumps, thickness of bark, etc., of our great redwood trees. The above cut shows the top of one of our large trees and is a faithful representation of the average tree. No grander sight can be seen in nature than a grove of these magnificent trees, with their tops waving in the air at a height of—in cases—over four hundred feet.

ART SCHOOL—PAINTING—CRAYON.

Mr W. E. Rollins, formerly teacher of the drawing class in the art school, has opened a studio in the Washington Block, corner Montgomery Avenue and Washington Streets. We can cordially recommend this gentleman to those desiring to become proficient in either painting, or the skillful transferring of natural objects to the canvas by the use of the crayon. Mr. Rollins is a strict disciplinarian, and this feature is one of the most important necessary to a pupil's thorough advancement, as it enables him to become identified with the preceptor's ideas, and thereby in after years reproduce with a master hand the various objects in nature.

PICTURESQUE CALIFORNIA HOME, NO. 2. The great success attending the sale of the first volume, prompted the authors to issue the second one. The cuts in No. 2 are entirely new. Mailed to any address, either No. 1 or No. 2, for $3.50 each.

Master Plumbers' Association.

Howard Building, S. W. Cor. Stockton & O'Farrell Sts., S. F., Cal.

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	Per M ft.
Rough Pine, merchantable to 40 ft. inclusive	$21 00
" " " 41 to 50 " "	22 00
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" " 1x3, 1x4, and 1x6, Fencing, odd lengths	20 00
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Pickets, rough, B. M.	20 00
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Lath, 1½ 4 ft., per M.	3 50
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Rough Redwood, merchantable.	$21 00
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" fancy, per M.	3 75
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Shakes, split, per M.	9 00
" sawed "	11 00

COUNTRY

BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on;" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interest of Architects, Contractors, and Material Men.

Astoria.

Geo. Flavel will erect a brick building.

Album of Mantels, for $8.00.
Architects' Companion, for $2.50.

Burbank.

One and a half story frame cottage. Owner, W. H. Gancher; architects, Curlett, Eisen & Cuthbertson; contractor, E. Lane. Cost, $3,000.

Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.

Two one-story frame cottages. Owner, W. H. Gancher; architects, Curlett, Eisen & Cuthbertson; contractor, E. Lane. Cost, $1,600 each.

Every Man His Own Mechanic, for $3.50.
Tredgold's Carpentry, for $7.50.

East Los Angeles.

Two-story frame residence. Owner, Dr. S. C. Newton; architect, John C. Pelton, Jr.; contractor, V. Gifford. Cost, $3,000.

Artisan, for $5.00.
Builders' Guide, for $2.00.

Two-story frame residence. Owner, Mrs. Dr. Griffin; architect, John C. Pelton, Jr.; contractor, Van R. Liddell. Cost, $7,000.

One and a half story frame cottage. Owner, Miss M. H. Chapman; architect, John C. Pelton, Jr.; contractor, V. Gifford. Cost, $2,500.

Woodward's Farm Homes, for $1.00.
Woodward's Graperies, for $1.00.

Fresno.

D. D. Hudson will build a $4,000 residence.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Haywards.

Two-story frame. Owners, Chisholm & Ferrell; contractors, Whitehill & Matthews. Cost, $3,000.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

One-story frame. Owner, M. Knox; contractor, Flick. Cost, $3,000.

Steel Square Problems, for $1.00.
Workshop Companion, for 35c.

Two-story frame. Owner, Heatherington; contractor, Flick. Cost, $2,000.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

One-story frame. Owner, Geo. Prouse. Cost, $1,000.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

Two-story frame. Owner, Alex Allen; cost, $2,500; contractor, Collins Harr.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Parsonage Congregational Church. Cost, $2,000.

Album of Mantels, for $8.00.
History of Architecture, for $15.

Two-story frame. Owner, Chlotts; contractor, Dahl; architect, Matthews. Cost, $4,000.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

One-story frame. Owner, A. C. Bloomer. Cost, $2,000.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Hollywood.

Three-story hotel. Owner, O. C. Weyse; architect, John Hall. Cost, $75,000.

Drawing for Bricklayers, for $1.50.
Drawing for Cabinet Makers, for $1.50.

Los Angeles.

Stable, 48x100 feet. Owner, Olive Street R. R. Co.; contractor, A. F. Mackay. Cost, $4,000.

Architecture and Building, for $3.50.
American Cottage Building, for $3.50.

Two-story frame residence. Owner, Jas. M. Damron; architects, Glover & Thompson; contractors, Zeller & Britton. Cost, $4,000.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

Two two-story frame residences. Owner, J. K. Skinner; architect, C. H. Brown; contractor, A. F. Mackay. Cost, $5,000 each.

Every Man His Own Mechanic, for $3.50.
Tredgold's Carpentry, for $7.50.

Two-story frame residence block. Owner, Herm. J. Baer; architect, John C. Pelton, Jr.; contractor, V. Gifford. Cost, $11,000.

Woodwards' Country Homes, for $1.50.
Practical Perspective, for $5.00.

Two-story frame block. Owner, M. Schwenz; architect, R. H. Dorn & Son. Cost, $3,800.

Woodward's Country Homes, for $1.50.
Science of Carpentry, for $4.00.

Two-story frame residence. Owner, J. M. Riley; architects, Costerisan & Merithew; contractor, day work. Cost, $10,000.

Universal Assistant, for $2.50.
Practical Perspective, for $5.00.

Three-story hotel. Owner, John Eberle; architect, John Hall. Cost, $15,000.

Cutting Tools, for $1.50.
Home Hand-Book, for $10.00.

One-story frame cottage. Owner, Mrs. Foggarty; architects, Costerisan & Merithew; contractor, J. W. Wilson. Cost, $1,700.

Cutting Tools, for $1.50.
Cummings' Details, for $5.00.

Two one-story brick warehouses. Owner, W. W. Montague & Co.; architects, Curlett, Eisen & Cuthbertson; contractor, W. W. Fletcher. Cost, $6,000 each.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

Two-story frame residence. Owner, M. Aguierra; contractor, A. F. Mackay. Cost, $3,000.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

One-story frame cottage. Owner, A. A. Eckstrom; architect, J. W. Forsyth; contractor, T. M. Plotts. Cost, $2,100.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

Two-story frame residence. Owner, S. B. Olmstead; architect, John C. Pelton, Jr.; contractor, N. Gifford. Cost, $3,600.

Practical Perspective, for $3.00.
Woodward's Country Homes, for $1.50.

Three-story brick block. Owner, A. B. Miller; architect, W. R. Norton; contractor, L. D. Griswold. Cost, $5,500.

Artistic Homes, for $3.50.
Modern House Painting, for $5 00.

Steel Square Problems, for $1.00.
Workshop Companion, for 35c.

Two-story frame residence. Owner, Frederick Mohr; architect, John Hall; contractor, B. F. French. Cost, $5,000.

Artisan, for $5.00.
Builders' Guide, for $2.00.

Two-story frame residence. Owner, Herm. F. Baer; architect, John C. Pelton, Jr.; contractor, D. Hennessey. Cost, $8,000.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Olympia.

Mr. Chalmers has let the contract for a brick building to Patunde & Co.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

Pasadena.

Addition to two-story frame residence. Owner, E. C. Webster; architect, J. L. Frank; contractor, Geo. Webster. Cost, $7,000.

Builders' Construction (three volumes, very fine), for $14.00.
Plaster, How to Make it, for $1.00.

The opera house is an assured thing. It will cost $80,000. Address, Col. A. M. Gray.

Architecture and Building, $3.50.
American Cottage Building, for $3.50.

Pomona.

One-story frame cottage. Owner, J. H. Adams; architects, Costerisan & Merithew; contractor, day work. Cost, $1,500.

Shavings and Sawdust, for $1.50.
People's Cyclopedia (three large volumes) for $20.00.

One and a half story frame cottage. Owner, Dr. F. D. W. Crank; architect, J. W. Forsyth; contractor, Henry Hanson. Cost, $3,000.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

Santa Monica.

One-story frame cottage. Owners, Potts & Carlisle; architect, J. W. Forsyth; contractor, T. M. Plotts. Cost, $1,800.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

Salinas.

A brick hotel is being built by Jas. Jeffery.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

San Lorenzo.

Two-story frame. Owner, Elias Llewelling; architect, Matthews; contractor, Dahl. Cost, $6,500.

Ruskin's Works (four volumes), for $6.00.
Industrial Drawing for Carpenters, for $2.00.

Ventura.

Three-story brick hotel. Owners, Rose & Fargo; architects, Curlett, Eisen & Cuthbertson; contractor, David Perry. Cost, $60,000.

Woodward's Farm Homes, for $1.00.
Woodward's Graperies, for $1.00.

Walla Walla.

Architect Babcock has let the contracts for the $10,000 Ennis Block.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Winters.

J. Cradwick and H. Seaman are each building a two-story brick building. They will spend about $5,000. A. Ritchie was their architect.

Painter, Gilder, and Varnisher, for $1.50.
Architects' Companion, for $2.50.

D. P. Edwards is having built a cozy $2,000 cottage. T. D. Ball is doing the work.

[Our correspondent claims that the lumber combination will deter many from making improvements, owing to the recent advancement in prices.—Ed.]

Limes, Cements, and Mortars, for $4.00.
Wonders of Art, for $1.25.

SAN FRANCISCO BUILDING NEWS.

A

Army, nr. Guerrero. Two one-story frames.
O. and B.—J. M. Comerford.
$3,000.

B

Buchanan, bet. Union and Filbert. One-story frame.
O.—Louis Zimmerman.
A.—W. Schrof.
C.—I. Merry.
$1,400.

Balny, nr. Twenty-fourth. Two-story frame.
O.—Deering.
Day work.
$1,500.

Bush, No. 2238. Additions.
$1,600.

Bartlett, bet. Twenty-fourth and Twenty-fifth. Additions.
$1,200.

Belcher, bet. Ridley and Fourteenth. Two-story and basement frame.
O.—G. W. Moore.
A. and B.—G. W. Wright.
Day work.
$4,000.

Broadway, cor. Buchanan. Frame building.
O.—A. A. Adler.
A.—Macy & Jordan.
M.—J. Haaf.
C.—J. M. Kelly.
$17,000.

Bartlett, bet. Twenty-fifth and Twenty-sixth. Additions.
O.—Gibbs.
$3,500.

Bush, nr. Hyde. Two-story frame.
O.—J. Eliaser.
C.—R. Parker.
$4,000.

C

Clementina. Alterations.
O.—L. G. Somps.
A.—G. E. Voelkel.
C.—J. H. McKay.
$5,000.

Clay, bet. Van Ness and Franklin. Additions.
O.—L. Schwabacher.
A.—O. Kenitzer.
C.—Thos. Mannix.
$1,300.

Castro, cor. Nineteenth. Two-story frame.
O.—E. Ring.
A.—T. J. Welsh.
C.—C. M. Arnold.
$5,500.

Clay, nr. Franklin. Alterations.
O.—W. M. Hoag.
A.—J. J. Newsom.
C.—Martin & Maquiro.
$3,200.

Chattanooga. Three one-story frames.
O. and B.—J. M. Comerford.
$5,000.

Capp, nr. Twenty-fifth. One-story frame.
O.—C. O. Smith.
$2,200.

Capp, cor. Twenty-second. Alterations.
O.—D. B. Murphy.
A.—S. and J. Newsom.
C.—Knowles & Wetmore.
$3,500.

California, cor. Jones. Carpenter work, etc.
O.—Chas. Crocker.
A.—Curlett & Culbertson.
C.—Mahoney Bros.
$50,000.

California, bet. Scott and Devisadero. Two-story frame.
O.—H. M. Levy.
A.—P. R. Schmidt.
C.—P. Crichton.
$8,000.

California, cor. Jones. Two-story and attic frame.
O.—Mrs. F. F. Moulton.
A.—Clinton Day.
C.—R. P. Herbert.
$15,000.

California, cor. Stockton. Church building.
O.—Congregation Shari, Zedek Israel.
A.—Salfield & Kohlberg.
C.—L. Weisman.
$9,000.

D

Devisadero, bet. Haight and Waller. Two one-story frames.
O.—Marchand.
C.—Hatfield.
$8,000.

Dolores, bet. Twenty-second and Twenty-third. Alterations.
O.—S. Hueler.
C.—F. Kern.
$1,600.

E

Eighteenth, cor. Jessie. Two two-story frames.
O.—Anna Dunn.
A.—H. Wharff.
C.—O. E. White.
$6,500.

F

Folsom, cor. Twenty-fourth. Two-story frame.
O.—Mr. Kern.
Day work.
$3,500.

Folsom, cor. Stuart. Two-story frame.
O.—J. Schulte.
A.—P. R. Schmidt.
C.—Kent.
$12,000.

Fulton, nr. Broderick. Two-story frame.
O.—A. Dorrity.
C.—G. Houston.
$2,600.

Fourth, cor. Louisa. Alterations.
O.—J. H. Richard.
A.—W. Mooser.
C.—H. Munster.
$1,300.

Fillmore, bet. Tyler and McAllister. Two-story frame.
O.—E. O. Turner.
A.—M. Balcynski.
C.—R. O. Chandler.
$5,500.

First, cor. Tehama. Additions.
O.—Rix & Firth.
C.—J. R. Wilcox.
$7,000.

G

Geary, nr. Mason. Three-story frame.
O.—H. Mathews.
A.—H. T. Bestor.
C.—C. M. Mason.
$18,000.

Guerrero, nr. Twenty-sixth. One-story frame.
O. and B.—J. M. Comerford.
$1,500.

Guerrero, nr. Army. Three two-story frames.
O. and B.—J. M. Comerford.
$9,000.

Golden Gate Park. Building for children—play-house.
A.—Percy & Hamilton.
C.—M. J. Kelly.
$40,000.

Golden Gate Avenue, bet. Jones and Leavenworth. Additions.
O.—Rev. G. Becher.
A.—Rev. Bro. Adrian.
C.—J. Klein.
$11,000.

Gough, cor. Pine. Additions.
$800.

Golden Gate Avenue, nr. Octavia. One-story frame.
$1,000.

H

Haight, nr. Devisadero. Two-story frame.
O.—McCarthy.
A.—Welsh.
C.—Sullivan.
$3,000.

Haight, bet. Webster and Fillmore. Two-story frame.
O.—L. Friedlander.
A.—P. S. Barber.
C.—H. Inwood.
$3,800.

Hampshire, cor. Twenty-fifth. Alterations.
O.—Mrs. McKenny.
A.—J. J. Newsom and J. W. Wessinger.
$2,000.

Haight, nr. Broderick. Two-story frame.
O.—J. Hughes.
A.—J. J. Clark.
C.—H. Keenan.
$4,200.

J

Jackson, cor. Devisadero. Two-story frame.
O.—Hallafy.
A.—Swain.
C. S. M. Hills.
$7,000.

L

Lyon, nr. Sacramento. Two-story frame.
O.—A. Balaner.
C.—Van Wei.
$5,000.

Lyon, cor. Sacramento. Two one-story frames.
O.—D. R. Collins.
$4,000.

Larkin, nr. McAllister. Alterations.
O.—H. Plagman.
A.—John & Zimmerman.
C.—B. Dreyer.
$3,000.

Liberty, nr. Valencia. Two-story frame.
O.—B. Schloss.
A.—A. J. Barnett.
C.—D. F. McGraw.
$4,500.

Larkin, nr. Turk. Additions.
$1,000.

M

Mission, bet. Twenty-second and Twenty-third. One-story frame.
$2,500.

Mission, nr. Nineteenth. Three-story frame.
O.—A. McElroy.
A.—T. J. Welsh.
C.—R. Doyle.
$7,500.

Market, cor. Fell. Four-story and attic.
O.—M. C. De Laveaga.
A.—P. R. Schmidt.
C.—Mahoney Bros.
$130,000.

Mission, bet. Fourth and Fifth. Two-story brick and basement.
O.—E. McGary.
A.—J. J. Barnett.
C.—O. A. White.
Brick mason—Richardson.
$45,000.

Masonic Cemetery. Brick vaults.
O.—B. A. Becker.
A.—W. Mooser.
C.—W. Matthews.
$7,500.

O

Oak, bet. Octavia and Laguna. Additions.
O.—J. Carbery.
$3,000.

Oak, nr. Scott. Two-story frame.
O. and B.—W. Pluns.
$4,500.

P

Powell, nr. Francisco. Three-story frame.
O.—J. J. Thuersen.
A.—W. Schrof.
C.—Knopf.
$4,400.

Polk, cor. Sutter. Alterations.
A.—P. R. Schmidt.
C.—Wilson & Son.
$3,000.

Pine, cor. Franklin. Alterations.
O.—H. Simon.
A.—Pissis & Moore.
C.—Langstaff.
$5,000.

Post, nr. Baker. Two-story frame.
O.—Sheehan.
$1,800.

Page, bet. Scott and Devisadero. Eight two-story frames.
O. and B.—W. Hinckle.
$35,000.

Page, bet. Octavia and Laguna. Two-story frame.
O.—Mrs. McDermott.
$4,000.

Page, nr. Webster. Two-story frame.
O.—Black.
A.—A. J. Barnell.
C.—Commary.
$5,500.

Post, cor. Franklin. Two-story frame.
O.—H. M. Levy.
A.—P. R. Schmidt.
C.—P. Crichton.
$7,800.

Pine, bet. Van Ness and Franklin. Two-story frame.
O.—J. Deutsch.
A.—W. H. Wharff.
C.—H. E. Hatch.
$4,500.

Pine, bet. Van Ness and Franklin. Two-story frame.
O.—A. Oberdena.
A.—W. H. Wharff.
C.—H. E. Hatch.
$4,500.

S

Stevenson, nr. Seventh. Repairs.
$1,000.

Stuart, nr. Folsom. Two-story frame.
O.—Scott.
C.—Kincaid & Thompson.
$2,500.

Stuart, nr. Folsom. Two-story frame.
O.—Rider.
C.—J. P. Smith.
$3,000.

Stuart, nr. Folsom. Two-story frame.
O.—Scott & McCord.
C.—J. P. Smith.
$3,000.

Steiner, nr. Pine. Additions.
O.—Mrs. Kafka.
$1,500.

Sutter, nr. Broderick. Two-story frame.
O.—Stowell.
A.—W. P. Moore.
C.—D. F. McGraw.
$6,500.

T

Twenty-sixth, nr. Dolores. One-story frame.
O. and B.—J. M. Comerford.
$1,500.

Twenty-fifth, cor. Harrison. One-story frame.
O.—P. Gleeson.
A.—T. J. Welsh.
C.—R. Sinott.
$2,000.

Twenty-second, cor. Treat Avenue. One-story frame.
O.—J. H. Handley.
C.—J. Dyer.
$2,500.

Turk, cor. Laguna. Two-story frame.
O.—D. Silverstein.
A.—H. D. Mitchell.
C.—G. H. Walker.
$5,000.

V

Van Ness, cor. O'Farrell.
O.—St. Mary's Cathedral.
M.—Butler & McGowan.
C.—Mahoney Bros.
$130,000.

W

Willow Avenue, nr. Mission. Two two-story frames.
O.—A. Deerie.
A. W. Schrof.
$10,000.

Washington, nr. Scott. Two-story frame.
O.—M. Poltzen.
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Labor Becoming Tyrannic.

PERSONS who watch the movements of various labor organizations of the present day cannot help seeing the evident tendency of those organizations to become monopolistic, to refuse freedom to others, to tyrannize over laborers in various disagreeable ways, and to attempt to acquire control of things not properly within their jurisdiction. For instance, not long ago there was a convention of glass-blowers at Atlantic City, New Jersey, and during the session a resolution was adopted abolishing the apprentice system in glass factories. The matter has, perhaps, small importance, but it is significant of the tendency of the labor movement, and it has an interest beyond the narrow boundaries of the glass industry, because similar action has already been taken by other trades. The point involved is this: Men who are earning their bread at skilled labor formally declare that no American boy shall be allowed to acquire the skill required to perform that labor. They turn their backs on the five or six million young men and boys in this country and deny them their right to become expert mechanics. The purpose, of course, is to make skilled labor scarce, and so to keep up wages. The result is to exclude the young from the chance to earn good wages, to force many of them into idleness, and to tempt others into crime. Against such a system the people of the country have a right to make vigorous protest. It is a matter that affects society at large. It touches directly every man who has children, and indirectly every human being from the lowest to the highest. The right of a boy to learn any honest trade that he desires to learn is positively indisputable; and to this is joined the clear right of every employer to take a boy into his shop to help him to acquire knowledge and skill. The denial of these rights by a trade union is tyranny, and it ought to be resisted to the last extremity. We assert that the solitary chance of the success of the labor movement, so called, lies in its obedience to the requirements of justice. When it sets justice at defiance, it is doomed. The people of this country are not going to permit any body of men to trample the most ordinary human rights under their feet.

On the same subject a Chicago journal says: "A father might to-day tramp all over Chicago with a son who wanted to learn an honest trade, so as to become a useful citizen, and fail, unless he took him to the Manual Training School and paid tuition for him. Hundreds of boys are now thus taught handicraft at the expense of fathers who can afford to pay for it. But let a poor man's son try it, and he will be met at the door of the factory or shop by a walking delegate of the Knights of Labor and turned away. If that does not do, his young face will be bruised by brutal fists, and so will the faces of those who stand by him. If anyone supposes that there is any limit to this kind of opposition, any point at which the would-be monopolists of labor would draw the line of limitation upon themselves, he does not understand depraved human nature. If individual liberty to acquire skill and earn bread and control earnings is not protected by law and by resolute public sentiment behind that law, then a reign of absolute lawlessness is visible not very distant in the future. The disbarred classes on one hand, and the employing classes on the other, will join hands and fight for their rights. The violence will not very long be all upon one side, and the violence which has human liberty and rights back of it will win. We are always glad to see a tyrannical and heartless employer forced to do right by "organized labor," but when organized labor determines to rob the American boy of his birthright, then it is evoking moral and material forces against itself which will not fail to beat it to pieces.—*Lumber World.*

Household Conveniences.

NOTHING astonishes an American abroad more than the backwardness of foreigners in adopting the little household conveniences which with us are matters almost of necessity. On the Continent, where people seem to live generally in the streets, and to have well-founded objections to staying in their houses any more than they can help, it is not so surprising that great pains should not be taken to render domestic life easy and convenient; but in England, the country, above all others, of beautiful and happy homes, one is often distressed to see the labor habitually expended upon work which in this country would be done almost automatically by some sort of ingenious appliance. We remember once going over the Belgravian mansion of Sir George Grey, ex-viceroy of India, and finding the kitchen in this aristocratic abode furnished with an enormous open fire-place, in which swung a crane, with pot-hooks and hangers, the whole, with the addition of a brick oven, forming the only cooking apparatus of the establishment; and every traveler can give plenty of illustrations of the discomforts of English houses. Even where American devices are transported across the water, they are received with suspicion, and are regarded as eccentric novelties for years after they have come into universal use with us. The last of these inventions to be introduced to the British public seems to be the well-known electric gas-lighting apparatus. Few houses, even of very modest pretensions, would now be built in or near any of our Northern cities without this indispensable feature; but it appears to gain ground very slowly in England. The *Builder* says, rather doubtfully, after describing the system by which the gas can either be turned on, lighted, or turned off by pushing a button, with the automatic burner, or turned on by hand and lighted by a pull at a pendant chain, that the apparatus appears to it "rather a pleasing toy than a serious convenience;" going on to explain that "it is hardly worth while to have a special electric mechanism merely to light the gas." This sounds very funny to people who never think of using matches or tapers to light the gas in their houses, and who would not on any account go back to that old-fashioned and dangerous practice. Even if the *Builder* thinks it of no advantage to be able to light the gas in the room by pulling a chain, or touching a button, instead of feeling in the dark on the mantel for the match-box, at the peril of upsetting the bric-a-brac behind which it lies concealed, and then succeeding in reaching the key, and turning on the gas just in time to have the red-hot remnant of the match drop into one's sleeve, while the gas, unlighted, pours into the room, it must, we should imagine, acknowledge that there is practical utility in an apparatus by which the gas in any room can be lighted from any other. In thousands of American houses the entrance-halls and vestibules are now lighted by the touch of a button in the rooms above, so that a ring at night, or an unusual noise below stairs, is immediately answered by lighting up the rooms, as a preliminary to a descent to see what is the matter; while in hundreds more the lanterns in the carriage, porch, or along the driveway are lighted and extinguished from the house in the same manner. With us the use of this simple and effective system is rapidly extending. We know a house where not only the gas-lights, but the fires are kindled and extinguished by the touch of a button; and the best of all systems of burglar alarm is that under which the house-breaker, on crawling through the basement windows, instead of frightening the family out of their wits by sounding a bell and displaying a sign in the bedrooms to the effect that ferocious criminals have arrived in the kitchen, sets in motion an apparatus which begins by suddenly illuminating with great brilliancy the place in which he had intended to do his deeds of darkness, at the same time deafening him by ringing an immense gong close to his head until the attention of the police is attracted to the place; the whole of the little drama going on without interrupting the slumbers of the unconscious master of the house in his room above.—*American Architect and Building News.*

Lath or Laths?—Lath or laths is the question. Most of the newspapers print it in the plural. At the East it is commonly called laths. In the West one scarcely ever hears a lumberman talking about laths; simple lath in a collective sense is good enough for the wild and untutored Western merchant. Webster's dictionary says that laths is right, and that is sufficient for the Eastern lumbermen who have graduated from college or high school to the lumber yard. Webster has doubtless decided that if it is right to say boards, pickets, and shingles, it is the proper thing to say laths. By the same rule corn should be corns, because beans are beans, and trout should be trouts. Words are as usage makes them. The *Lumberman* says lath, thus taking the liberty to disagree from the dictionary, choosing rather to conform to common sense and side with the great mass of men who handle the stuff.

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Dr. Loryea's New Hamman, 218 Post Street.

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MR. P. ABRAHAMSON—*Dear Sir:* The subject of ventilation without draughts has been my study for years in the various Hammans that I have built throughout the United States, in order to secure a perfect "Cool Room," which is the great desideratum to be attained in a Turkish Bath-House. Through your invention of the **Window and Door Ventilator,** we have secured every "desideratum that was devoutly wished for," as I have practically tested its merits, and find it works perfectly satisfactory, and can safely recommend it to all who are in search of fresh air without draughts. Yours truly,

A. M. LORYEA, M. D.

San Francisco, Feb. 1, 1887.

PETER ABRAHAMSON, ESQ.—*Dear Sir:* The ventilators you put in my bedroom work to perfection; they keep the air fresh and cool. I would not be without them for double the cost. I can recommend them as the best and most perfect I have ever seen. Any further information will cheerfully be given by calling at 504 Ninth Street, San Francisco. Respectfully yours, PETER A. SMITH, Supt. Cal. Sugar Refinery.

Pioneer Woolen Factory.

San Francisco, Feb. 3, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* In answer to your question whether I find the Ventilators satisfactory, I am pleased to say that, after due trial, both at my house and my office, I find it works to my entire satisfaction, and can cheerfully recommend them to all who are in search of perfect ventilation, without draught. My business is such that I am considerably confined in-doors, so to the subject of ventilation I have given considerable thought, as my experience teaches me how essential it is that we should breathe the air pure and free as nature has provided. I would not be without it, and think it is an article indispensable to every household.

HERVEY PLATT, Supt. S. F. Pioneer Woolen Factory.

San Francisco, March 20, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* I have examined the action of your Window Ventilator in one of the rooms of my house, in which you have applied it; and I find that it produces a strong in-current and out-current at the same time, without making a perceptible draught. The current of air produced by it will keep the air of the room quite pure. It is to be recommended for simplicity and efficiency.

Yours truly, ALFRED W. PERRY, M. D.
(Dr. Perry is a member of the Board of Health.)

San Francisco, April 2, 1887.

MR. P. ABRAHAMSON, Patentee of th Abrahamson Ventilator—*Dear Sir:* I hereby acknowledge that I have had your Patent Ventilator placed in my Court Room Department No. 2, Old City Hall, and that I find it in every sense beneficial for the purposes intended.

JAMES LAWLER, Judge of Police Court No. 2.

Oakland, Cal., March 19, 1887.

MR. P. ABRAHAMSON, San Francisco—*Dear Sir:* After giving your Patent Ventilator a thorough test, I am thoroughly convinced that you have indeed made a most wonderful discovery in furnishing ventilation without creating a draught. I have been using two of them for several weeks and take pleasure in pronouncing them a perfect success in fact I so fully appreciate their usefulness that I should like to obtain from you the agency for this county. An early reply will oblige, Yours truly, E. F. DELGER.

Guardian Assurance Company of London.

San Francisco, April 16, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* Since you placed two of your Ventilators in the windows of our office, corner of California and Sansome Streets, I have noticed a considerable improvement in the atmosphere of the room, and have not felt any draught from their use. Very truly yours,

WM. J. LANDERS, Gen. Agent.

San Francisco, May 17, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* The Ventilator you put in our office pleases us beyond our expectations. The office is kept perfectly cool and without the least feeling of draught. We take pleasure in recommending your Ventilator as the best we have ever seen, and shall be pleased at any time to show the same to anyone you may choose to send us.
Very respectfully, ANDERSON & TALLON, 12 & 14 Market St.

San Francisco, May 24, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* The Abrahamson Ventilators that you have put into my Court Rooms at the Old City Hall have given me satisfaction.

I find they are all you claim for them, vehtilation without draught. D. J. MURPHY,

Judge of the Superior Court.

United States Post Office.

Oakland, Cal., May 7, 1887.

E. F. DELGER, ESQ., Oakland.—*Dear Sir:* We take pleasure in giving our testimony to the excellence of the Abrahamson Patent Vacuum Ventilator, two of which are in use in this office and are giving perfect satisfaction.

They maintain a perfect ventilation in the rooms to which they are applied, and we regard them as the best Ventilator of which we have any knowledge. I. L. HANNE, P. M.
L. T. FARR, Ass. P. M.

Architect and Builder.

Oakland, Cal., May 9, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* In the pursuit of my business, that of Architect and Builder, I have been enabled to place a number of your Ventilators in different offices and residences in this City, namely, the C. P. R. R. Co.'s Office at the mole, the Post-office of this City, the *Daily Tribune* Office, Mr. E. F. Delger's Dwelling and Office, and others, all of whom speak of them with the highest praise, recommending them highly to others. In fact I consider your Ventilators indispensable in every office, for their simplicity and efficiency are wonderful. Should you wish to refer any person to me, I shall be pleased to have you do so. I am, Sir, yours, etc., J. S. WHITE,

522 Sixteenth St., Oakland. Cal.

San Francisco, June 1, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* I cheerfully certify that since you placed your Ventilators in the Court Room of Department No. 12, Superior Court, the air has been uniformly cool and fresh, and the ventilation has been very good and without draught. Your Patent Ventilator is unquestionably a very meritorious invention.

Very respectfully, J. J. GROOM,
Court Room Clerk, Department No. 12, Superior Court.

Sutter Street Railroad Co. (Cable Line.)

San Francisco, June 2, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* Your Patent Ventilator placed in my office some time ago, has now had ample time to prove its merits, and in my opinion the objects sought by you are largely attained.

The situation is one of the most trying, the wind having full access and force upon the point selected. Prior to the placement of your device, an open window was the forerunner of a very strong draught.

You so arranged the Ventilator that the opening was a matter of option, but with rare exceptions it has constantly remained open day and night. Very truly,

A. K. STEVENS, Sec.

Tribune Publishing Company.

Oakland, Cal., June 4, 1887.

PETER ABRAHAMSON, ESQ.: I have one of your Ventilators in my office. It gives perfect satisfaction, and I take pleasure in recommending it to those who want pure air without a draught. Yours truly, W. E. DARGIE,

Oakland *Tribune.*

Jacobs & Easton, Insurance Agents.

San Francisco, June 6, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* I have used your Patent Ventilator in my bedroom for the past two months, thus having made a thorough test of the same, and I cheerfully recommend it to those desiring the advantage of a constant current of pure air without draughts. Yours truly,

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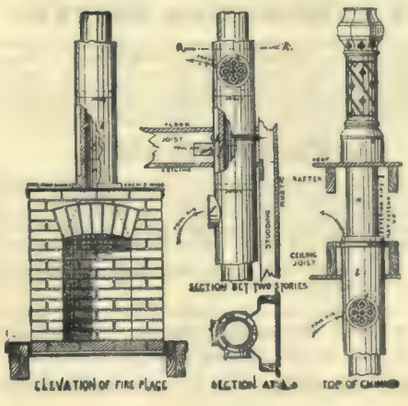

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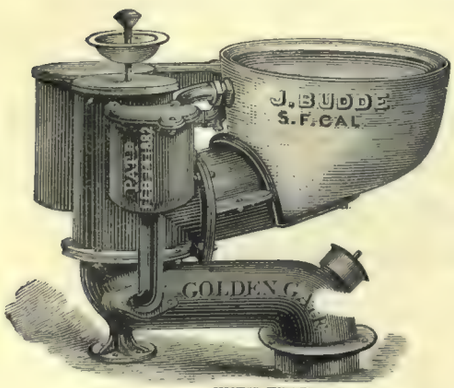
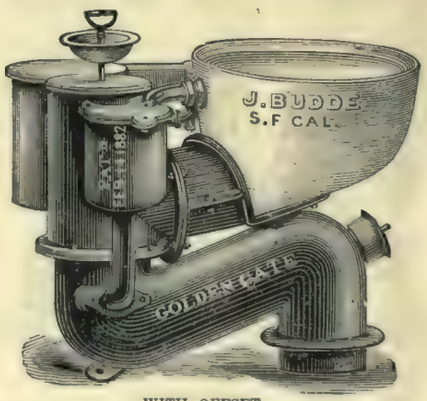


WITH TRAP.

The Golden Gate Plug Closet.



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This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

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2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

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Side View, Combination Hopper

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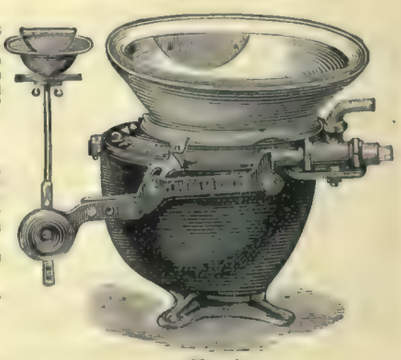

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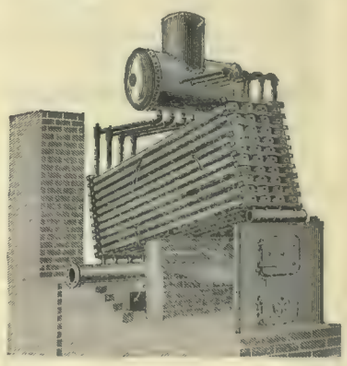

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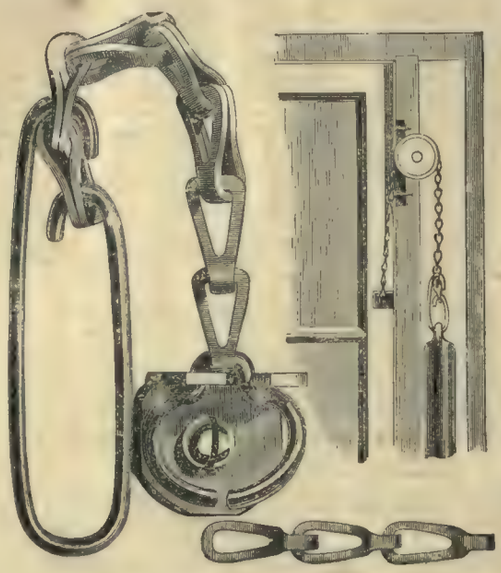

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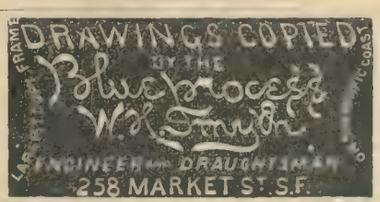

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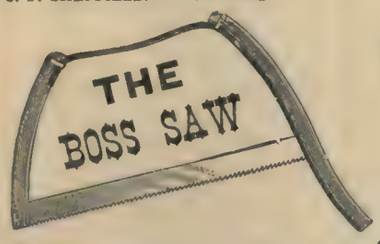

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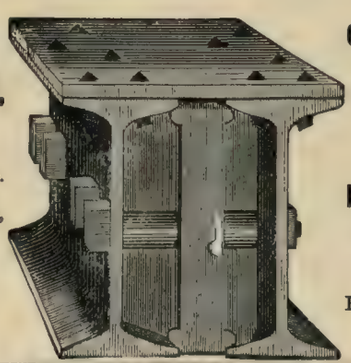

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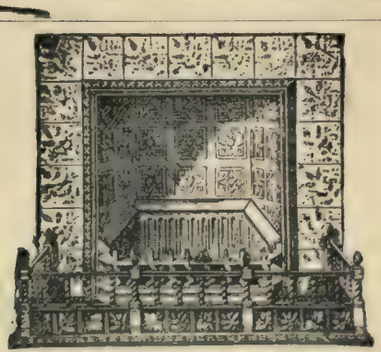

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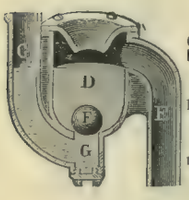

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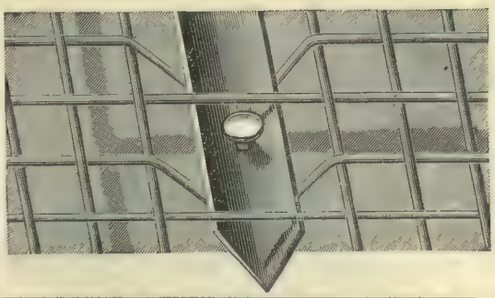

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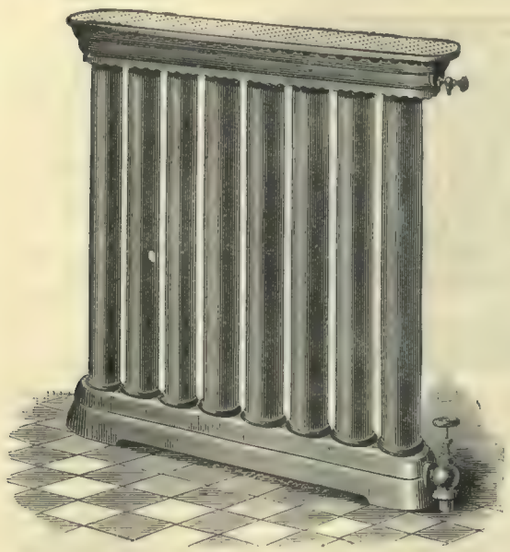

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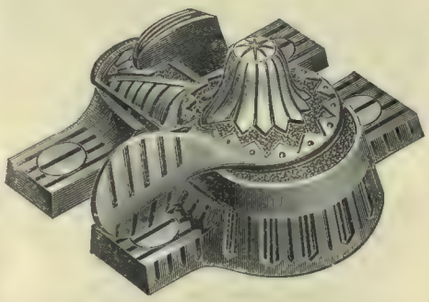

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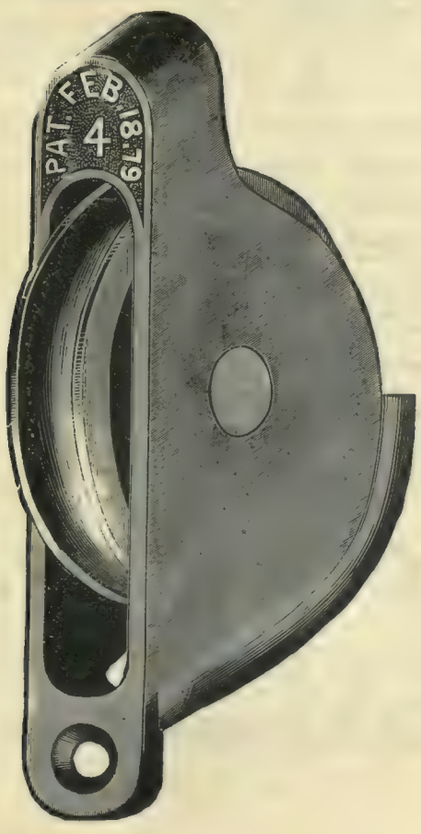

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The California Architect and Building News.

Entered at Post-office, San Francisco, as Second-class Mail Matter. Established January, 1879.

Volume VIII. Number 8.

THE

California Architect & Building News.

Established January, 1879.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 Montgomery Street, Rooms 11, 12, 13.

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No Others Received.

SAN FRANCISCO, CAL., AUGUST 15, 1887.

Improving the System.

THE building contracting business in San Francisco, and more or less throughout the State, within the past twenty-five years or more, in all the mechanical branches, has been conducted in a manner anything but satisfactory as a whole to architects, material men, or the responsible and better class of contractors. The true history of the business during the past quarter of a century presents a deplorable state of facts. Incompetent and irresponsible men, and withal men enjoying no fair degree of honest intent and purpose, have from time to time crowded in and operated as contractors, monopolizing a large proportion of the work offering, taking it at *taking* prices, with but little concern as to involvments, consequences, or results, thereby rendering it difficult and almost impossible for honest contractors to compete, and in thousands of cases ending in compromise, and, in short, *pro rata* settlements.

The effect of this has been sadly disastrous all around. The really competent and good men have been prevented from realizing what was and is their due—engagements at living prices, and fair compensation for the skill and service required of them in conducting and executing honest work. Material men have suffered severely by short payments, millions of dollars within the time named being lost through trusting men who had all to gain and nothing to lose by contracts undertaken at ruinous prices, and but for the fact that building materials, especially lumber, the chief commodity used in building construction in California, has always, except at special times when breaks in combinations and fierce competition for a period has "knocked the bottom out" of regular trade, paid, as it is now doing, large margins of profits, many of the dealers would have been forced to succumb under the severe losses which have at times followed in quick succession.

And while architects have not been involved in the direct losses growing out of this state of things, they have been severely contingent losers in time, annoyances, and vexations, as every engagement made with inferior contractors involves trouble and expense to the man of plans, who is expected to combat and counteract the short-comings of those under his supervision, and in the event of failure of any kind he is expected to be a Solomon, meeting the antagonizing views of everyone involved in the transaction, and satisfying the demands of all contending parties, or else meet the denunciations of those who may feel themselves aggrieved. While those who suffer more financially are greater losers in dollars and cents, the architect is by far the worst punished party concerned, in the misrepresentations and vexatious annoyances that attach to every case of failure by a contractor.

All this suggests, Who is most to blame? As a rule, those who lose place the *onus* upon the architect, who has, unfortunately to himself, yet innocently, allowed the contract to fall into improper hands. But a single second thought must bring the conviction that no sane or sensible architect would willingly permit himself to be the victim of such circumstances as generally follow engagements with men of known disrepute and dishonor. And when contractors present the credentials of ample credit, and their material men as bondsmen, it is not an easy matter for the architect to convince the owner that he should pass the lowest man, and pay from ten to twenty-five per cent more to the second or third higher bidder. Consequently, architects reply, and the majority of the better classes of contractors chime in, No; the fault lies in the fact that incompetent men are granted credit without regard to their financial or moral responsibility. The doors of trade are too easy upon their hinges, and the custom has been next to universal that any man, no matter what his actual pecuniary or moral status might be, could find all required credit and bonds necessary to enable him to claim his rights as a contractor, and undertake the work of construction, whether large or small.

But with the many-sided views existing in the issue, it is not likely that a unanimous agreement can possibly be reached as to who is most chargeable, nor is it now necessary, if all interested contractors, material men, and architects, will combine upon a plan that will serve every best interest, and substitute for the bad that has been, a condition of things that will be just to all concerned, and best alike for contractors, material men, architects, and owners, leaving the possibilities of failures and *pro ratas* in the future to extreme and incidental cases, averaging, at most, fairly within the limits of experience in the commercial world, and, we hope, far less.

But some will say, Have not owners profited by the state of things referred to? Yes, they have. But in reply, Have they not done just as all other men have done in other connections, availed themselves of the benefits appearing from this condition of affairs? It is a universal law among mankind to make the best bargain possible, and he who would refuse acceptance of a proposition purporting to lighten the drafts upon his exchequer, would not be estimated in the business world as sagacious and prudent, the results promised being the same. Hence to remedy the evils that have been in the building line, material men, contractors, and architects must advise the method, and by faithful, honest understanding carry into practice such rules and systems as will insure integrity and justice to all parties.

THE REMEDY IN HAND.

A movement is on foot among the material men, and others concerned in the risks and responsibilities of the building trades, which we hope will be worked to a successful issue, the object of which is to close the doors that have been open too wide, and bar them against the ingress of impecunious interlopers, by making reputation, competency, and responsibility a necessary password to credit. Let this be done and strictly adhered to, and it will not be long ere the skunk-weed class will disappear.

Building Summary for August.

THE past month has been a brisk one as far as building improvements are concerned. The number of improvements now under way is much greater than the same period of last year. Recapitulation for the month is as follows:—

105 frame buildings, value	$388,100
7 brick " "	150,000
24 alterations, value	44,250
136	$582,350
From Jan. to Aug. 15, 1886, 841 buildings, value	$4,528,735
" " " " " 1887, 744 " "	4,603,964

The indications are that in the remaining months of this year the discrepancy in *number* of buildings will be overcome, and this year show a larger number of improvements than 1886. The *value* is certainly greater.

San Francisco Chapter of Architects.

THE regular meeting was held the evening of the 5th inst., President Pissis presiding. After the reading and approval of minutes, reports of committees, and attention to general business, the nomination of officers for the ensuing year followed, the election to be held September 2. The committee reported favorably upon the application of Gingero Hamada as associate member. At this point a general discussion was indulged in, in regard to the past work of the Chapter, and its future prospects. An expression of abiding faith in its possibilities was unanimous, and the best of feelings permeated the evening's intercourse. The many material benefits to the profession, growing out of the Chapter's organization, were fully reviewed. The adoption by the Chapter of a schedule of charges for professional services, which is by our courts recognized as authority in cases of dispute, has been of great advantage to both members and non-members of the Chapter. But the more especial good done by the organization is found in its moral influence in bringing together a large portion of the membership of the profession, and establishing professional courtesies and friendly intercourse far greater than existed prior to the existence of the Chapter.

A more general, interested co-operation of the architects of San Francisco would doubtless add to the efficiency and influence of the Chapter. Among those who have assisted by service as officers and otherwise, and at convenient times or regularly attend the meetings of the Chapter, are Messrs. Wright, Sanders, Curlett, Laver, Pissis, Welsh, Clark, Moore, Wolfe, Henricksen, Bestor, Curtis, Gath, Macy, Bennett, Everett, Babson, Eisen, while many others in San Francisco, San Jose, Los Angeles, Oakland, Sacramento, and other places, hold inactive membership, and visits from non-members frequently occur.

While the Chapter may not have made that decidedly successful advance possible, and placed itself in the position for good that it might have done, its management has been free from individualism and clique influence. A generous and liberal sentiment and harmony of purpose have prevailed, and those who have been most earnest in the work have been actuated by best judgment and honest intent and purpose; so that whatever mistakes may have been made have been the result of error of judgment.

Those who have not affiliated are alone to blame for any seeming imperfection of the organization, as the doors of the Chapter have ever been open to every good man, and those who could have done better than seems to them to have been done by those who have done the best they knew how, are at fault in not assuming the position that has ever been free to them, and by the force and influence of their greater wisdom helping to found and perpetuate an architectural organization in San Francisco that would accomplish all that could be accomplished by a body of intelligent, practicing architects.

THE SEWAGE SYSTEM FOR SAN DIEGO, CAL.—The *Sanitary News* describes a somewhat novel plan for disposing of sewage in the system which Colonel Waring has engaged to build for San Diego, Cal., at a cost of about $400,000. The main sewer runs a quarter of a mile into the harbor to an outlet-reservoir construc ed alongside the deep ship-channel. The reservoir will have an area of one acre, and cost some $50,000. The collected sewage will fill this reservoir not more than one and a half feet deep. High tide will add three and a ha'f feet of sea water to the mass. The contents thus diluted will be discharged into the outgoing tide by automatic gates opening an hour after high tide, and closing an hour before low tide. At Stockton and Sacramento, where the conditions are nearly identical, Colonel Waring will make wells in various flat parts of the cities, connecting with a deep outlet well by large siphons. Colonel Waring has used this plan for two years successfully at Norfolk, Va. At Los Angeles he recommends the purchase of 10,000 acres of land six miles from the city, and the disposal of the sewage upon it by irrigation.

Artificial Stone Sidewalks.

THE superiority of well-laid artificial stone sidewalks is universally admitted, and as a rule everybody is having new sidewalks put down, and those who can afford the slight additional expense over wood, especially in front of new buildings, adopt the more durable, and practically more economical, device —artificial stone. There are numerous examples of excellent work of this kind in San Francisco, and some wretched abortions. When the number engaged in contracting this class of work was limited to those who both fully understood the art of manipulating cement, and who retained a feeling of pride in the quality of work done by them, a better class of work was produced. But its growing and rapidly increasing popularity offered inducements to many adventurers to become sidewalk contractors, until at the present time there is a host of them—some good workmen, having learned the trade by service under the earlier employers who introduced the business in this city, and as many more who possess not the first item of practical knowledge, except to make a few figures by way of ascertaining the number of square feet contained in the space to be covered, and ordering the required material. As to the proper way to manipulate the same they know nothing, and are forced to depend upon such hired help as they may control; consequently competition is large and zealous, and, as a result, prices low, with the *finale* of some miserably poor work.

Some men are actually contracting to put down artificial stone sidewalks in San Francisco for less than the first cost of the raw material alone, required in the execution of good work, with nothing allowed for labor. Many owners think this is nice, and imagine that they are doing a good thing for themselves by a deal of this kind, failing to realize the fact, as fact it is, that to do cheap work of this kind the cheapening is compensated to the worker, by the inferior quality or diminished quantity of cement used, and the economizing of labor. The outcome of all this is that some of the earlier laid sidewalks put down by the pioneer *cheap* men are, after a few years' wear, worn out or so badly disfigured by cracks that they present very unsightly appearances, while many of the cheaply laid kind laid within the past year or two are, in the line of their predecessors in kind, badly cracked.

It is all well enough to obtain the thing one wants as cheaply as possible, provided the thing actually wanted can be had for the cheap figure; but it is a little bit of humbuggery played on one's self to smile at a result which in reality gives the occasion to laugh to the party smiled at.

Most of the very cheaply laid sidewalks will prove "good for the trade," inasmuch as they will wear out in a few years, and require relaying, while those laid in first-class manner will endure for a generation.

Answer to "Draughtsmen Wanted."

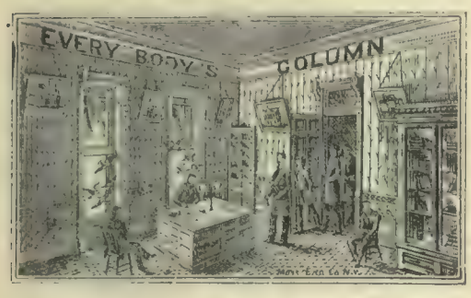
SINCE the first appearance in this journal of the article with above heading, we have received scores of letters, asking information in regard to situations. So far, our time and postage-stamps have been freely given to answer inquiries; but we must decline, in future, to answer letters that do not contain return postage. Our books will show that over one hundred letters have been answered, upon which, in addition to our own trouble, we have had to supply stamps in order that the letters may be received by applicants. We will gladly answer any letter sent us by those seeking information, but will only do so when proper postage is inclosed for return answer.

MORE DRAUGHTSMEN ARE WANTED.

From present appearances, the demand will be greater than ever. We can readily place from fifteen to twenty good draughtsmen at good wages and a long engagement. Please remember that *carpenter sketchmen* are not wanted. We can only place thorough draughtsmen, who can execute all the details necessary to every portion of a building.

PLUMBERS, as well as architects, will be interested in the account given in the *Deutsche Bauuternehmer* of a novel method for thawing the ground, as a preliminary to excavation in winter. Instead of building a fire over the spot to be excavated, as is with us the ordinary practice, those who use the new method spread over it a layer of quicklime, followed by a stratum of snow. More lime is put on, and this again covered with snow, and if the ground is frozen to a great depth, several alternate layers are used. The whole is then left to itself overnight, and in the morning the ground is found to be free from frost. If no snow is to be had, water may be used for slaking the lime, which is then to be covered up to keep in the heat.

ASKED, ANSWERED, and COMMUNICATED.



☞Architects, Contractors, Carpenters, and mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them, and we will make the cuts. We especially invite suggestions from apprentices and young mechanics.

Pitch of Roofs.

From M. O. F., Nevada City, Cal.—I have a dispute with a brother tinner with reference to the pitches of roofs. My argument is that the term one-half pitch, one-third pitch, etc., refers to the fractional parts of the $\frac{1}{4}$ circle—in other words, the fractional part of 90°. Therefore, one-half pitch would be an angle of 45°, and one-third pitch, 30°, and so on. The argument of my opponent in this controversy is that a roof that rises 12 in. in 12 in. run is full pitch, while a rise of 6 in. in 12 in. run is one-half pitch, simply because 6 is one-half of 12. By the same argument, a rise of 4 in. in 12 in. would be one-third pitch, because 4 is one-third of 12. Will you please explain this subject and greatly oblige?

Answer—The term pitch referring to the slope of the rafters of a roof, as used by architects and builders, is dependent upon both span and rise. Pitch is expressed in several different ways. Sometimes it is given in the degrees of angle which the rafter makes with the horizontal. This method, however, is not in common use outside of the books. The most general plan, however, of expressing pitch is by the height in parts of the span. Accordingly, it is quite common to hear a roof spoken of as one-half pitch or one-third pitch. If, for example, the span is 30 feet and the height is 10 feet, the pitch by this method is called "third pitch." Another plan, but not in such general use, is by the length of the rafters in parts of the span. Thus if the span is 30 feet and the length of the rafter 20 feet, by this method the pitch would be called "two-thirds pitch." It would seem from the statement made by our correspondent above that neither he nor his opponent in the controversy is correct. The latter is manifestly wrong, and he employs terms which have apparently been invented for his purpose. For example, notice the term "full" pitch. In describing his own explanation of these terms, our correspondent fails to indicate how the angle is to be measured, and we do not know that we quite understand what he means, although his description of the method is apparently plausible. What we have printed above is the recognized standard adopted by builders and architects in general. —*Carpentry and Building.*

PINE naturally treated is one thing; painted in brown or red and called black walnut, mahogany, or cherry, it is decidedly another. So in hard woods; to show the natural color and to bring out the beautiful grain of the wood is far preferable to any treatment which aims at different results.

Redwood Shingles.

From A. W. H., Westfield.—"I desire to refer one or two questions about California redwood shingles to the readers of *Carpentry and Building*. I have seen redwood shingles that when first put on the walls and oiled looked very well, but after a few days or weeks, however, dark-colored shingles began to appear among them, and accordingly the sides of the building looked very bad indeed. I desire to inquire if there is any way by which this difficulty can be overcome."

In answer to the above, it may be stated that, to insure equality and uniformity of color, redwood shingles intended for oiling should be selected. The texture of the California production varies greatly, some being fine-grained, light-colored, soft woods, and other trees producing hard and brash kinds, down to what is known as black-heart redwood; consequently the yield in shingles from the respective classes must vary greatly as to color under treatment. Before exposure to the weather, this difference is not so marked, nor even when used in ordinary roofs and painted, or the natural surface exposed to the weather. But it must be apparent that where soft, porous, and hard-grained, brashy shingles are laid indiscriminately in same connection, and oiled, the oil penetrates the one and disappears, and remains on the surface of the other, producing widely different results in a little while.

Again, sappy redwood shingles should never be used, as the sappy parts have no lasting quality anywhere, and if used in shingles and oiled, the sappy portions will speedily show contrast.

Be Saving and Buy a Lot.

EVERY young man who earns wages ought to buy a lot and make a start of a home. The way to get a start is to save a little money each month and make a payment on your purchase, and so, little by little, pay for a lot and build your house. Don't spend all your money on livery turn-outs and dances and ice-cream to please your best girl. After a while you will need a home for that best girl, and the youngsters that some way or another generally come around and want to "put up" with you. Put a little of your spare cash into the ground as you go along, and after many days it will bring you a royalty.

Glue Which Will Hold in Water.

POWDER and dissolve one part of glue in one of thick linseed oil varnish boiling hot, and mix thoroughly. In using it, heat the two planed sides of the wood, apply the glue warm, and press the pieces together.

To Clean Oil Paintings.

THE following recipe will be found valuable for the purpose: Mix well together two ounces of wood naphtha, one ounce spirits of salts, and a quarter of a pint of linseed oil. Before being used the bottle containing them should be shaken. The application is simply with a soft pad of linen, to which should be given a circular motion. When nearly dry give a second dressing, when the picture will come out in all its details.

Restoring Moulded Picture Frames.

SHOULD any portion of the moulding be destroyed, it may be restored by a composition made by boiling together some Venice turpentine, resin, and linseed oil, then adding glue dissolved in water, and, finally, whiting, till the mass is brought to the consistency of putty. The composition is then shaped to supply the defective part, and is to be colored or gilded to match the rest of frame.

A DOWN-EAST Yankee has invented a new screw—half nail, half screw—which is said to beat anything extant. Two blows of the hammer, two turns of the screw-driver, and it is in. Its holding power in white pine is said to be 332 pounds, against 298 pounds, the holding power of the present screw.

PLASTER when dry, treated with two coats of warm boiled oil, will, when painted, stand the elements as well as wood. Rogers' statuary is made in this manner. Shellac varnish is used sometimes in place of boiled oil, but if there is any common lime in the work it is apt to scale.

TO BE AVOIDED.—Resin is frequently used for producing an immediate adhesion of the belt to the pulley, and for this it is well suited, but if the owner has any regard for the consequences, he will soon learn that while the resin will give an instant grip to the slipping belt, it will soon be ground into the leather, stiffen the material and make the last state of that belt worse than its first.

NOT MUCH NEED OF IT.—There is not so much need of sandpaper in the manufacture of furniture and all cabinet work now adays, as the machinery used turns out very perfect work. It is estimated by one of the largest manufacturers of sandpaper in the country that not more than seventy per cent of the amount of last year's business will be done this year.

THE salt industry at Manistee and Ludington, Michigan, has greatly curtailed the lath business. Edgings alone are now cut into lath, as slabs are more valuable for salt-barrel staves.

Constitution of the Builders' Association of California.

ARTICLE I.

Section 1. This Association shall be known as The Builders' Association of California.

Sec. 2. Its object shall be to encourage a more intimate acquaintance and cultivate a feeling of friendship among its members; to make them better acquainted with the wants and necessities of the building business; to arbitrate and settle disputes, if any arise among the members, and generally to advance and protect their business interests as contracting builders.

ARTICLE II.

Section 1. Any carpenter residing and doing business as a general contractor and builder in the State of California, and who has announced his willingness to join this Association prior to the adoption of this Constitution, shall be eligible to membership herein without vote, upon the payment of the fee, as provided in this Constitution and the By-Laws.

Sec. 2. Any carpenter residing and doing business as aforesaid may become a member, upon being proposed by two members and receiving the affirmative vote of two-thirds of the members present at a regular meeting, and paying the fee as prescribed in the By-Laws.

ARTICLE III.

Section 1. The regular meetings shall be held at least once a month upon the day and hour fixed in the By Laws and in the City of San Francisco.

Sec. 2. Special meetings may be called by the President (and in his absence by the Vice-President) at his discretion, and shall be called by him at the written request of the Executive Committee or of five other members.

Sec. 3. The President shall state the object of the special meeting in the call therefor, and no business shall be transacted, except such as appertains to the business specified.

Sec. 4. Adjourned meeti gs may be held at any time by authority of a majority vote of a quorum at a regular meeting, notice being given of such meeting as provided in the By-Laws, stating the business for which the meeting is to be held, and no other business shall be transacted thereat, except such as is stated in the notice.

ARTICLE IV.

Section 1. Nine members shall constitute a quorum for the transaction of business at all meetings.

ARTICLE V.

Section 1. Each individual member shall pay an admisssion fee of not less than twenty-five dollars, which fee shall accompany the application for membership.

Sec. 2. The dues to be paid by each member shall not be less than one dollar and fifty cents per month, payable in advance.

ARTICLE VI.

Section 1. The elective officers shall be a President, a Vice-President, a Recording Secretary, a Financial Secretary, a Treasurer, and an Executive Committee of seven members.

Sec. 2. The appointed officers shall be such as are prescribed in the By-Laws.

Sec. 3. Four members of the Executive Committee shall at all times be residents of the City and County of San Francisco. Four members of said committee shall constitute a quorum thereof.

Sec. 4. The President shall preside at the meetings, preserve order, see that the rules and laws are enforced, sign all drafts for money voted by the Association, appoint all committees unless otherwise ordered or provided for, and have the care and custody of all bonds which may be required of the other officers.

He shall see that all other officers and committees perform their respective duties, and shall report any neglect or delinquency forthwith to the Association. He sha l not speak upon any question except one of order without calling the Vice-President, or in his absence some other member, to the chair.

He shall vote only upon applications for membership or upon questions requiring a two-thirds vote, except to give the casting vote when the members are equally divided. He shall at the commencement of his term appoint a Finance Committee consisting of three members not having charge of the Association Funds, and perform such other and further duties as may be imposed by the By-Laws.

Sec. 5. The Vice-President shall, during the absence or inability of the President to act, perform all the duties of that officer. He shall preside when called upon by the President, and perform such other duties as may be imposed upon him by the laws or rules.

Sec. 6. The Recording Secretary shall keep correct minutes of the proceedings of the Association, file and preserve all papers and documents belonging thereto, conduct the correspondence, draw and attest all drafts for monies voted and perform all other duties usually devolving upon a secretary, or which may hereafter be imposed by law or rule.

Sec. 7. The Financial Secretary shall keep correctly the accounts between the Association and its members and others, in proper books to be provided for that purpose. . He shall collect and receipt for all money due from any source, and pay the same to the Treasurer at each meeting, when practicable, but at least once each month, taking his receipt for the same. He shall report at the first stated meeting in each month the amount of all moneys received during the preceding month, and the source from which received, together with the amounts paid out and for what paid. His books and accounts shall be kept in such a manner that the financial condition of the Association and the state of each account can be determined at any time. He shall render the Finance Committee all the facility required in the examination of his accounts, and upon retiring from office, deliver to his successor, or other person designated by the Association, all money, books, papers, or other property belonging thereto.

Sec. 8. The Treasurer shall receive and receipt for all money received by him as such and deposit the same, or all amounts in his hands exceeding fifty dollars, in some bank designated by the Association or the Executive Committee, in his name as Treasurer of the Builders' Association, with the distinct understanding that the said account shall be transferred to his successor in office, upon notice from the Association, through the President and Secretary thereof, stating the person who has been elected to succeed him.

The money, when so deposited, shall be paid out by said bank, only upon drafts or checks signed by the President, attested by the Secretary, and countersigned by the Treasurer.

The Treasurer shall keep a correct account of all moneys received, deposited and paid out, and render a correct report thereof, at the first stated meeting in each month.

Upon retiring from office he shall deliver to his successor or such person as the Association shall designate, all money, books, papers, and property in his hands belonging thereto.

Sec. 9. The Executive Committee shall have and exercise a general supervisory care over the affairs of the Association. They shall designate the bank in which the funds of the Association shall be deposited, unless the same shall have been done by a vote of the Association, and require the officers to change the same, when in their judgment the safety thereof requires it. They shall hear, examine into, and, if possible, settle all disputes between members, when they can do so to the satisfaction of all parties concerned; otherwise report the facts, testimony, and their conclusions thereon, to the Association for their action.

All amendments to the Constitution and By-Laws or Rules, and all agreements to be entered into by and between the members affecting the building business, shall be referred to them to examine and report thereon before action.

ARTICLE VII.

Section 1. The regular elections for officers of the Association shall be held semi-annually at the second meetings in January and July in each year, and they shall be installed at the first regular meetings in February and August following their election.

Sec. 2. The elections shall be by ballot and the majority of all the votes cast shall be necessary to elect, except where there is only one nominee for an office, when the election may be by acclamation.

Sec. 3. The time and manner of making nominations and matters pertaining to the qualifications, etc., of officers may be provided for by the By-Laws.

ARTICLE VIII.

Section 1. The money of the Association shall be kept in one General Fund.

Sec. 2. Rent, salaries, and other necessary current expenses may be paid by a majority vote of a quorum at any regular meeting. But no money shall be otherwise appropriated or paid out in amounts exceeding twenty-five dollars for any one purpose, except by resolution signed and introduced by a member, which shall be laid over at least one week and then passed by a two-thirds vote of the members present.

ARTICLE IX.

Section 1. Any amendments to this Constitution must be proposed by a member at a regular meeting, each section proposed to be amended written out in full as it will read when amended. Such proposition shall then be laid over for two weeks, and when acted on must receive the affirmative vote of two-thirds of the members present, *except* as provided in section 2 of this Article.

Sec. 2. By-Laws not in conflict herewith may be adopted from time to time as the Association shall determine, and may be repealed or amended as provided in said By-Laws. But no By-Laws or Rules shall be passed abridging the right of any member to carry on or transact his business in such manner as he shall deem just and proper, unless such law or rule shall have received the affirmative consent of at least three-fourths of all the members of this Association. Due notice of the passage of any such By-Law or Rule shall be given to each member in writing at least two weeks before the same shall take effect and be in force.

This Section shall not be repealed except by a three-fourths vote of all the members of the Association.

BY-LAWS.

Section 1. The regular business meetings of this Association shall be held on the second and fourth Wednesdays of each month in the City and County of San Francisco, at 8 o'clock P.M.

Sec. 2. Notice of all special or adjourned meetings shall be given either by postal card or by advertisement in two or more daily papers of the City and County of San Francisco. The notice must state the nature of the business to be transacted thereat.

Sec. 3. The fee for admission to membership shall be twenty-five dollars. The dues shall be one dollar and fifty cents per month, payable in advance.

Sec. 4. Any member who shall be in arrears for three months dues shall be notified by the Financial Secretary, and if he fails to pay the same, or such part thereof as shall bring him less than two months in arrears, during the space of two mo ths thereafter, he shall be suspended from the rights and privileges of membership, and so notified.

Sec. 5. Any member guilty of a violation of his agreement entered into and signed by him with the other members, or of a violation of the Constitution, By-Laws or Rules of the Association, first having been duly tried by the Executive Committee (or by a Special Committee duly appointed in case the Executive Committee or any member thereof are disqualified from acting), and duly convicted by their report and a vote of the Association, shall be fined, suspended or expelled, as shall be adjudged by a two-thirds vote of the members present.

Sec. 6. Any member desiring to bring charges against another shall reduce the same to writing, specifying clearly and explicitly the nature of the same, with time, place and circumstance connected therewith and signed by him and delivered to the Association or Executive Committee.

Sec. 7. A copy of the charges shall be immediately served upon the member against whom they are made by the Recording Secretary or some person selected by him or by the Executive Committee, and at least five days' notice given him of the time and place of trial.

Sec. 8. The testimony shall be taken in writing by the committee and signed by the witness. The committee may adjourn from time to time and a quorum may proceed at any meeting.

Sec. 9. When the testimony is all in on both sides they shall consider the same and see if they can settle the matter to the satisfaction of all parties. If they fail to do this they shall report the testimony, together with their conclusions thereon, to the Association for their action and decision.

Sec. 10. The Association shall then proceed to take action thereon and may have the testimony read if desired by either party. During the reading and discussion of the testimony both parties shall be entitled to be present and to be heard. But when the Association proceeds to act thereon all parties interested shall be excluded from the room.

Sec. 11. If the Association finds the accused guilty, it shall forthwith proceed to fix the penalty, first voting upon expulsion. If two-thirds of the members vote in favor of that penalty, the member shall stand expelled. If not, the next vote shall be upon suspension. If two-thirds of the members vote in favor of suspension that shall be the penalty, and the Association shall proceed to fix the time or duration thereof by vote, which time shall not exceed six months. I two-thirds of the members do not vote in favor of suspension, the penalty shall be a fine, and the Association shall then proceed to fix the amount of the fine (unless the same shall have been previously fixed in the By-Laws for like offenses), which may be done by a majority vote, but shall in no case exceed the sum of two hundred dollars.

Sec. 12. The President, in his discretion or when directed by the Association, shall appoint a Sergeant-at-Arms to serve during his pleasure, who shall have charge of the room, furniture, etc. He shall serve papers when required by the Association or by the Executive Committee, assist in preserving order at the meetings, and perform such other duties as may be required of him by the Association or the presiding officer thereof.

Sec. 13. The Finance Committee shall examine and audit all demands against the Association; examine and report upon the books of the officers at the end of each term, and at such other times as the Association may require.

Sec. 14. The President may appoint a special committee of investigation at any time he may deem the same necessary or when required by vote of the Association; said committee shall consist of one or more members who shall examine and report upon the matter referred to them.

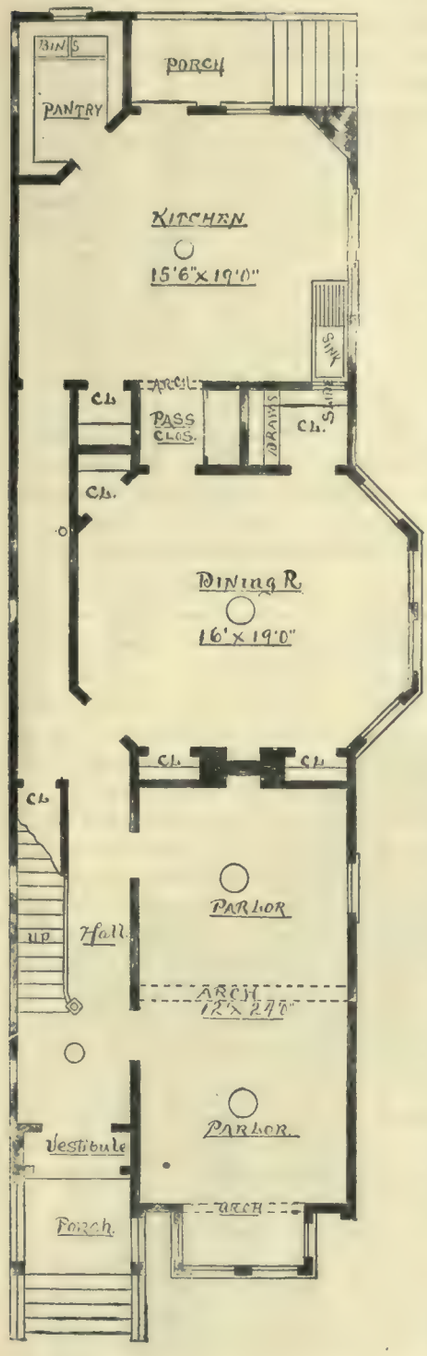
Sec. 15. The Association may at any time require its officers who have the charge or collection of its funds to give bond for the faithful discharge of their duties, which bonds (when required) shall be made payable to the President, in trust for and for the benefit of the Association.

Sec. 16. The Association may employ a clerk to take charge of its rooms, who may also act as Secretary, or it may assign either of its Secretaries to that duty.

It may pay any of its officers or employes for their services such sums as it may from time to time determine by By-Law or Rule.

Sec. 17. Nominations for officers shall be made at the first regular meetings in January and July of each year, but nominations may be made on the night of election, if the nominees all decline or if ordered by a two-thirds vote of the members p esent.

Sec. 18. These By-Laws may be repealed or amended in any manner not in conflict with Section 2 of Article VIII of the Constitution, by designating the Section proposed to be repealed or by writing out in full t e Section proposed to be amended as it will read when amended, such proposition being signed by the member offering the same, the proposition being first laid over for one meeting and adopted by a two-thirds vote of the members present.



FIRST FLOOR PLAN OF $5,500 DWELLING.

Carved Signs.

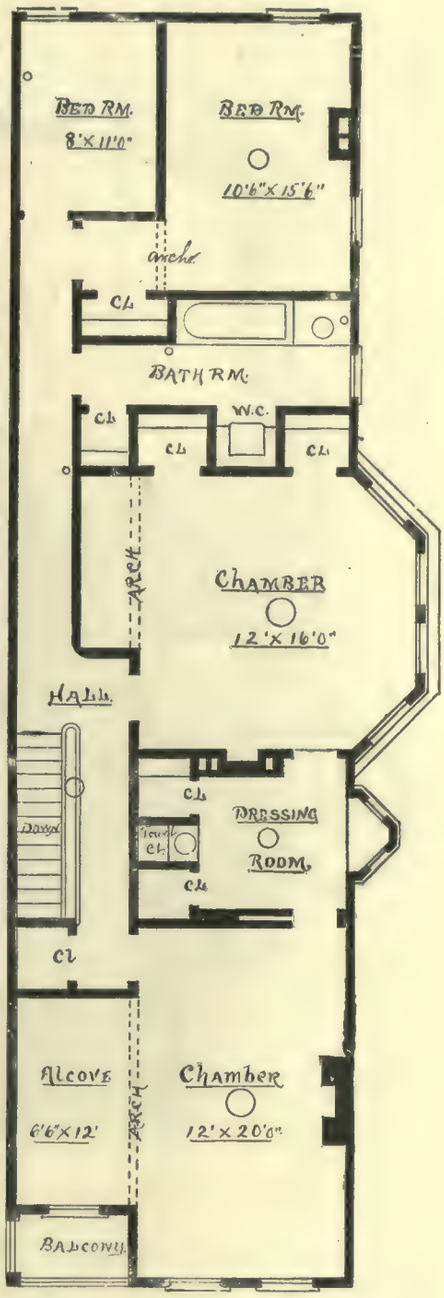
CARVING is practically an art as well as a craft, not merely in interior woodwork but in sign work. Carving well executed in these gives an enriching effect. Soft wood is generally selected for ease of working, this being stained, painted, or gilded. Many fanciful contours are produced, and much taste is frequently displayed in these productions which have laid hold of popular taste. Good carving in the undulations it exhibits will afford not only contrast of form to the general surface but an attractive play of light and shade. The forms at the same time should be well defined, for a mere medley of protuberances and depressions is confusing and unattractive. Right proportion and disposition of parts will impart an aspect of completeness to the design that will not fail to please.

As regards the technique of carving it may be classified in four divisions: 1. The ornamentation of a plane or curved surface with designs in slight relief. 2. The ornamentation of a plane or curved surface in high relief, the *alto relievo* of the Italians. 3. Work entirely curved or wholly in relief. 4. Figures in the round. The first division includes all carving which follows the contour of the sign-board, or forms the contour itself. Undercutting, as a rule, should be sparingly used.

The wood selected for carving, that is to say, the portion to be operated on, should be rubbed over with chalk and the design outlined in strong, dark lines. The depth of the ground of the relief work having been determined, care must be taken that the tools do not cut beneath this. The amount of detachment or absolute relief will depend on the degree of skill required to be exercised in securing due proportions, proper spaces to clusters of ornament if introduced, and the proper degree of prominence and depression to the figure. There must be an observance of right proportions.—*Painters' Magazine.*

IT is estimated by a leading Chicago commission house that 8,000,000 cross-ties, mainly cedar, were cut in territory contiguous to the great lakes the past winter.

OWING to the increased growth of the fruit-growing industry on the Pacific Coast, box making in California and Oregon has been very brisk this season.



SECOND FLOOR PLAN OF $5,500 DWELLING.

Valuable Hints.

IF varnish or oil does not flow easily, add powdered camphor.

SHELLAC and borax boiled in water produces a good stain for floors.

DON'T inclose the sink—no place in a kitchen is so much neglected.

PORCH floors should be of narrow stuff and the joints laid in white lead.

LIME-WATER is fire-proof protection for shingles or any light wood-work.

COMMON brick absorb a pint of water each, and make a very damp house.

THE lowest-priced builder is not always the cheapest, as poor work will testify.

A CLOSET finished with red cedar shelves and drawers is death to moths and insects.

Do not locate a furnace register next to a mantel, that is, if you wish to utilize the heat.

TERRA-COTTA flue linings are a great improvement over the old roughly-plastered chimney.

FOR basement flooring, oak is preferred to maple because it will stand dampness better.

To properly select the colors applicable to the proper place, consult an educated painter.

A VENTILATING flue from the kitchen into the chimney often does away with atmospheric meals.

STOPS to doors and windows should be fastened with round-head screws, so as to be easily moved.

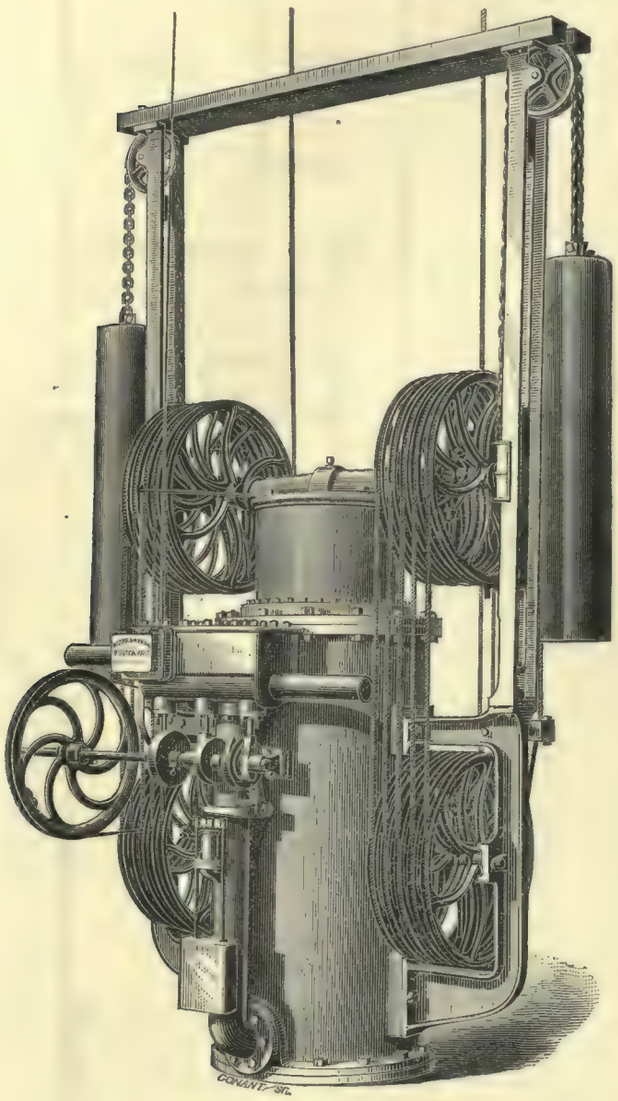
IT is better to oil floors than to paint them—a monthly rubbing will make them as good as new.

Do not use one chimney-flue for two stove-pipes—the draught of one will counteract that of the other.

Do not finish windows to the floor—the circulation across the floor is one of the causes of cold houses.

ASH-PITS in cellars under fire-places and mantels save taking up ashes, for they may be raked down through a hopper.

Do not construct solid doors of two kinds of hard wood—the action of the atmosphere on one or the other will cause the door to warp.



Elevators.

IN considering the many new patents for elevators, and the appliances connected with the same, two essential requisites are necessary. The first one is in regard to the absolute safety of the devices; the second relates to the cost of running expenses. It is a fact that many are more interested in the last proposition than the first, taking it for granted that an elevator is safe as long as it is well built and supplied with any of the modern safety appliances to guard against accidents.

An elevator that thoroughly combines the above two essentials, should receive the consideration of all those who require, either in public, mercantile, or private buildings, an elevator that is simple in all its details, easily understood, and the running expenses of which are considerably less than those of any other machine now in use.

Our attention has recently been called to a new double capacity patent hydraulic elevator, which certainly seems to embody these desired qualities.

The object of this double capacity hydraulic elevator is economy in the use of water. It can be operated by water-pressure from the city main, or from a tank in upper story of building; is always ready for use, night or day, and costs nothing when not in operation. No engineer, steam boiler, or tanks required when city pressure can be obtained.

This machine has one capacity for light loads, and another which, combined with the first, will lift heavier loads. The loads to be lifted may be varied to suit.

A double-capacity hydraulic elevator divides the water into two parts, and uses water in proportion to the loads lifted. Consequently if the lighter load is lifted a less quantity of water is used than though the maximum load is lifted. A single capacity elevator requires as much water to lift the empty car as to lift the maximum load.

In practice it has been found that the loads are constantly varying, and in an ordinary day's use, they will average about one-half the maximum. It is therefore desirable to have an auxiliary power instantly available for any increased load which may be put upon the car, especially if this auxiliary power costs nothing when not in use. The double-capacity machine fills this requisite, and is practically two elevators combined in one, either of which can be used when required. It stops automatically at each end of its stroke, and may be called from one floor to another by pulling the hand-rope at the floor where wanted.

A very important feature, and one not possessed by other machines, is the patent automatic lock or regulator, which avoids a waste of water by preventing the use of the larger capacity when the smaller capacity is competent for the load. Its action is entirely automatic, and dependent upon the load in the car; and it is impossible for a careless or unskilled operator to use more water than is required. The ordinary method of operating double-capacity elevators heretofore has been for the conductor to pull on the valve-rope until, in his judgment, he has opened the valve; but should he pull too far, the full quantity of water, though not needed, is admitted, and the desired economy is not obtained. A double-capacity machine without an automatic lock is little better than a single-capacity machine, and when it is known that elevators are often operated by those who know little or nothing of their construction, and that at each trip there may be a saving or loss of from fifty to seventy-five gallons of water, dependent upon the variation in pulling of the hand-rope, the object of this invention will be apparent.

This machine is guaranteed to be safe, economical, and durable, all parts being strongly and substantially built and made of the best material; when repairs are needed, the arrangement is such that each and every portion is accessible.

The Bancroft History building has been supplied with these elevators, and it is worth the time and attention of those about to build, to thoroughly examine the workings and cost of running these in actual use, before adopting any other style.

Information in regard to the above will be furnished upon application—either in person or by letter—to the San Francisco Tool Co., corner of First and Stevenson Streets, they being prepared to construct freight or passenger elevators of this style to lift any required load.

In towns and cities having electric plants furnishing light and power the economy of these elevators is still further increased by using pumping apparatus accessory to the elevator, consisting of a tank on top and one at the base of the building, with a pump connecting the two and run by an electric motor actuated by electric power. The pressure and quantity of water are obtained from the upper tank. The elevator discharges into the lower tank, from whence the water is pumped to the upper. The water is thus used over continually without waste.

The San Francisco Tool Co. make such electric motors, under the Keith system, pumps, tanks, etc. The Company is now outfitting the Pacific Power Co., of San Francisco, with a complete large electric plant for distributing power by electricity for elevator and other purposes. It is now running a small plant furnishing power for manufacturing purposes. All interested in this matter are invited to call and inspect the apparatus.

The Y. M. C A. Block.

IN this number of the ARCHITECT we give a cut of the new Young Men's Christian Association building now being erected by Messrs. Gilbert & Sons, contractors and builders, of Woodland, Yolo County. The foundations of the structure, for in reality there are three buildings in one, are laid firmly in brick, each building having its own foundation and own separate studding, so that each structure is independent, although in the block, and can be sold separately or as a whole. The total frontage is 70 feet, depth 108 feet, height to the top of the mansard tower 75 feet 6 inches. The three buildings contain three floors. The one on the right is rented to a doctor for a residence, the first floor of which is arranged especially for Turkish and Russian baths, after the famous Hammam, of San Francisco. This enterprise will give Woodland what few towns of its size East or West can boast of—first-class scientifically arranged and managed steam baths. The building on the left is arranged for a private residence and has been rented to one of Woodland's enterprising merchants. The architecture of the three buildings, as seen in the front elevation, is distinct in each, yet not so striking as to destroy the effect of a harmonious whole. The building on the right will take after the Eastlake style in finish, the center one, the Young Men's Christian Association building, which projects and is surmounted by the mansard tower, will be finished nicely after the Queen Anne style. The building on the left is rather quaint, being a modification of the Eastlake and suggestive of the Italian. The first floor of the Young Men's Christian Association building will be introduced by a spacious recess under an arch, at the left of which is the ticket office, and directly opposite is the Association bulletin board and directory. From this corridor you enter a private office to the left and the large store in the center, which will be sub-let by the Association. At the right you enter the hall-way leading to the stairs and rooms above, also to the gymnasium in the rear, with its bowling alley, walking track, gallery, tub and shower baths, and with all the improved gymnasium apparatus. It will be one of the finest equipped gymnasiums on the coast. The reading-room and library, the reception parlors and main hall, also the secretary's office, are located on the second floor and are models of convenience, and will be fitted up in a most attractive manner. The third floor is divided up into class-rooms, ladies' central committee kitchen, rooms for boys' branch, and quite a number of lodging-rooms for young men. These apartments will be airy and commodious and will afford the Society delightful quarters. These three buildings are each provided with front and back stairways. They will have all modern improvements and lack no really essential feature to make them complete for their purposes. The probable cost of the block will be $25,000 when finished, and will be a credit to the enterprising builders. The Association is fortunate in getting the second Association building erected on this coast, and no doubt its usefulness will be increased a hundred-fold when it gets into the new building. Surely the business men cannot invest their money in anything where it will do as much good and bring larger returns than in the Young Men's Christian Association.

THE Y. M. C. A. BLOCK.

Sobriety in the Saw-Mill.

A GREAT deal is said about total abstinence in different directions of labor, as to the lack of it, or the necessity for it, and the railroads, especially, have been widely commended for their increasing efforts toward its establishment among their employes, who not only have their own lives in their hands, but those of countless others, as well as the safety of all kinds of property. The importance of a level head, under such circumstances, cannot be overestimated, and it is more or less a requisite in any vocation.

But if there is any place more than another where drunkenness has no business whatever, it is in a saw-mill; and what is more, it is a very notable and undeniable fact that an intoxicated man at work in a saw-mill is a rarity. It is a place where everything goes with precision; where an error may mean limbs or lives, and where bad judgment might in a second wreck a piece of complicated machinery and occasion great damage. With sobriety and the best of care the accidents that occur in saw-mills are of shocking character and alarming frequency. The injury that might be done in a mill or factory of any kind if a man's functions were upset by drink is, of course, apparent, but a saw-mill seems to present the greater details of danger, and to involve unusual exactness. Give a drunken man full swing of the lever, clear the mill of other workmen, and there is no limit to the havoc he would probably create. If the inebriated sawyer did no other damage, what would be the character of the lumber he sawed? If one log looked like three to him, and he could see a double saw, with no ability to tell an inch from a foot, the product he turned out from a log would be a sight to behold.

It would not do to say that an intoxicated man, or one partially under the influence of strong drink, never could or never did run a saw-mill. It would be incredible to suppose there had not been several such cases, but it is the rule that the men who operate saw-mill machinery are sober. Some men have an ability to drink a certain amount of whisky and still control their functions, we reflect, and a man who was a little shot, and a devil-may-care fellow, might pull through a good many tough places.

But the saw-mill owner and the men who labor in it appreciate the situation. They know it means business; they know the danger, and the nicety with which everything must be handled. If they get careless they may pay dearly for it. As a result intemperate men largely keep away from saw-mill labor, either from choice or as a matter of compulsion. It is the exception when it is told that an accident in a saw-mill was caused by intoxication. That the rule of sobriety so generally prevails among saw-mills, while largely a question of direct necessity, is a fact for which lumber manufacturers deserve to be commended, for it takes determination to enforce it, and demands a recognition of merit, which, to a considerable extent, has been granted. The best engineers, filers, and sawyers are men whose industry, exemplary habits, and consequent skill entitle them to good wages, which they receive, and nobody ought to begrudge them what they get.—*Northwestern Lumberman.*

SLIDING-DOORS into small apartments are to be preferred in place of folding.

IN building frame houses, fill the studding one foot high above the sill with brick—this discounts the use of rat-traps.

Recipe for a Cement for Repairing Worn Places in Stone Steps.

LA SEMAINE DES CONSTRUCTEURS, in reply to a correspondent who asked for the recipe of a cement for repairing the worn places in stone steps, gives the composition of the famous "*ciment Sorel,*" which has for many years been used by a few contractors, who make a great secret of their process, for filling cavities and restoring abrasions in stone or marble. The first person to use the cement, Sorel, was the inventor of the so-called process of "galvanizing" iron, by covering it with a protecting film of zinc. In the course of his experiments he found that the oxide of zinc, mixed with a solution of the chloride of the same metal, gave a substance which soon became in air as hard as marble; and with slight variations, this mixture is the one employed by all his successors. Sorel, in practice, either used the washed residues from the manufactories of zinc white, which are perhaps heavier and less pure than the white pigment, or heated the ordinary zinc white of commerce to redness to increase its density, upon which the hardness of the cement depends. This, when intended for use, he mixed with a rather concentrated solution of chloride of zinc, having a density of fifty to sixty degrees by Beaume's hydrometer, usually adding about three per cent of borax or sal-ammoniac to lessen the rapidity of setting. So prepared, the "*ciment Sorel,*" after setting, soon becomes as hard as marble. It adheres very strongly to stone, and resists heat, cold, moisture, and even the action of acids, and may be colored. To reduce the cost, and assimilate it to stone, powdered granite, marble, or hard limestone may be mixed with it, but soft, earthy substances should not be used. As at present manufactured in Paris, various additions are made to the powdered zinc oxide, to give certain colors or textures, and the chloride solution is sent separately in bottles, the price of the whole, ready for mixing, being about seven cents a pound. The basis of the cement is in all cases the same, some trifling differences in the mode of preparation, such as washing the zinc white with water containing borax before calcining it, or using protochloride of iron, or chlorohydric acid, in the solution, in place of zinc chloride, serving mainly to support the claims of particular manufacturers to a special method of fabrication. In general, the heavier the zinc oxide, and the more concentrated the chloride, the stronger is the cement. To repair stone, either in the shape of statues or steps, the portion to be operated upon should first be scraped to a fresh, clean surface, and then moistened with the liquid chloride. A sufficient quantity of the dry cement is mixed with enough liquid to form a stiff paste, and placed in position, and after being allowed to set a few days, is trimmed off, and smoothed by rubbing with a piece of stone. In summer it will become hard enough to rub down in two days; in winter five or six days are necessary. While setting it must be protected from rain, and two weeks should elapse before a staircase repaired with it is opened to general use. Some of our readers, whose recollections of their experiences in the dentist's chair are fresh, will probably be struck by the similarity of the operations described to those which the dentist goes through in repairing a large cavity with cement filling, and in fact the cement used by dentists is nothing else than the "*ciment Sorel,*" prepared with care for their purposes.

Strength the Great Factor.

THE architect or builder who can look back upon a long and honorable career with no element of failure to blot its history can boast of either great prudence and care, or an extreme amount of that commodity called "luck." But few extensive builders have passed through life without recalling some piece of construction where the element of failure was paramount to that of safety. We believe in the truism that it is better to be on the safe side in all our structures. The want of size in timber, the simple absence of a bolt, a few inches in the thickness of a wall, have often brought about elements of danger in buildings that call for the strongest condemnation. There are two reasons for this state of affairs: one is an imperfect knowledge of the strength and capacity of building materials, and the other is a self-confident conviction of a belief born of a hasty and careless consideration of the subject.

The failure of roof trusses, of girders, and joists, the cracking of walls, the settlement of buildings, all may be indirectly traced to the above causes.

In all constructive architecture the first and important factor to be carefully considered is strength. Where doubt exists, well-known authorities should be consulted and living examples examined. The experience of any architect or builder of extended practice is worthy of consideration.

Especially to the young architect and builder is this a serious matter, and although he may, in self-confidence, assume that he has mastered his profession, he will soon learn that after years of practice he has just begun to learn, and it is at this stage he begins to practice carefulness and give some study—perhaps when it is too late—to the factor of safety. Especially is this applicable to the construction of masonry. That great common product of every locality, bricks, used in all our great structures, have in them not only the element of safety, but danger to an extensive degree, if not properly and carefully used.

A brick of medium quality will withstand a great pressure to crush it, if properly laid. From 400 to 1,000 pounds per square inch will crush ordinary brick-work, if laid carelessly. Of course we understand that the figures vary according to the quality of the brick, but the manner of laying has more to do with the safety of brick-work than the strength of the material itself. Not only the manner of laying and bonding, but the mortar goes far to render the work free from failure. The liability to crush and grind, communicated from one brick to another, is much reduced by a bed of good mortar, for the mass, upon becoming compact and homogeneous, is as a solid body upon which movement and crushing effect cannot act; and although the weight of a high wall would seem to bear more upon the bottom courses, yet if we consider the fact that by good mortar and workmanship we cement the work into one common mass, we bring it to the condition of a post or column, bearing the weight of a superstructure equally the same at the bottom as at the top. The fact that much of the brick manufactured by hand in small districts is soft and unburned, renders their use dangerous unless extra care is taken in laying them. Very seldom should brick work be used in isolated or high piers, for the support of great loads; but if used at all, they should be of the best quality, hard-burned, and laid in cement divided by good bond-stone. High piers are liable to buckle or spring out of plumb before crushing, and should in all cases be avoided if we have any regard for the great factor of all good construction—STRENGTH.—*Hill's National Builder.*

In Kansas and Nebraska, where something neat yet cheap is demanded, whitewood has the call over pine for house finish.

Southern California Sandstone.

A FINE specimen of sandstone from quarries near Los Angeles has been left at the office of this journal, than which in texture and color we have seen nothing finer in this State. The deposit is within a mile or two of Los Angeles City, and the ledge is found in stratas of from six to sixty inches in thickness. Even the heavier stratas are said to be entirely free from seams and fractures, with marked uniformity in color. It appears not to be affected by exposure to the atmosphere, except to improve it in hardness. The proprietors of the quarry propose its introduction for building purposes in San Francisco as soon as transportation facilities are completed.

It is certainly gratifying to notice the unearthing of these natural finer products of our State in building materials. With the sandstone of Santa Clara County, and the more recently discovered Los Angeles stone, an ample supply of beautiful building stone of the kind is at hand, serving all present purposes, with the great probability that other counties of the State will in turn unbosom deposits of sand and other fine stones for building purposes, which will reduce the propensity of a certain class of owners who feel disposed to "send East" for the brown sandstone of Connecticut, to a simple exhibition of folly.

The American Glossary of Architectural Terms.

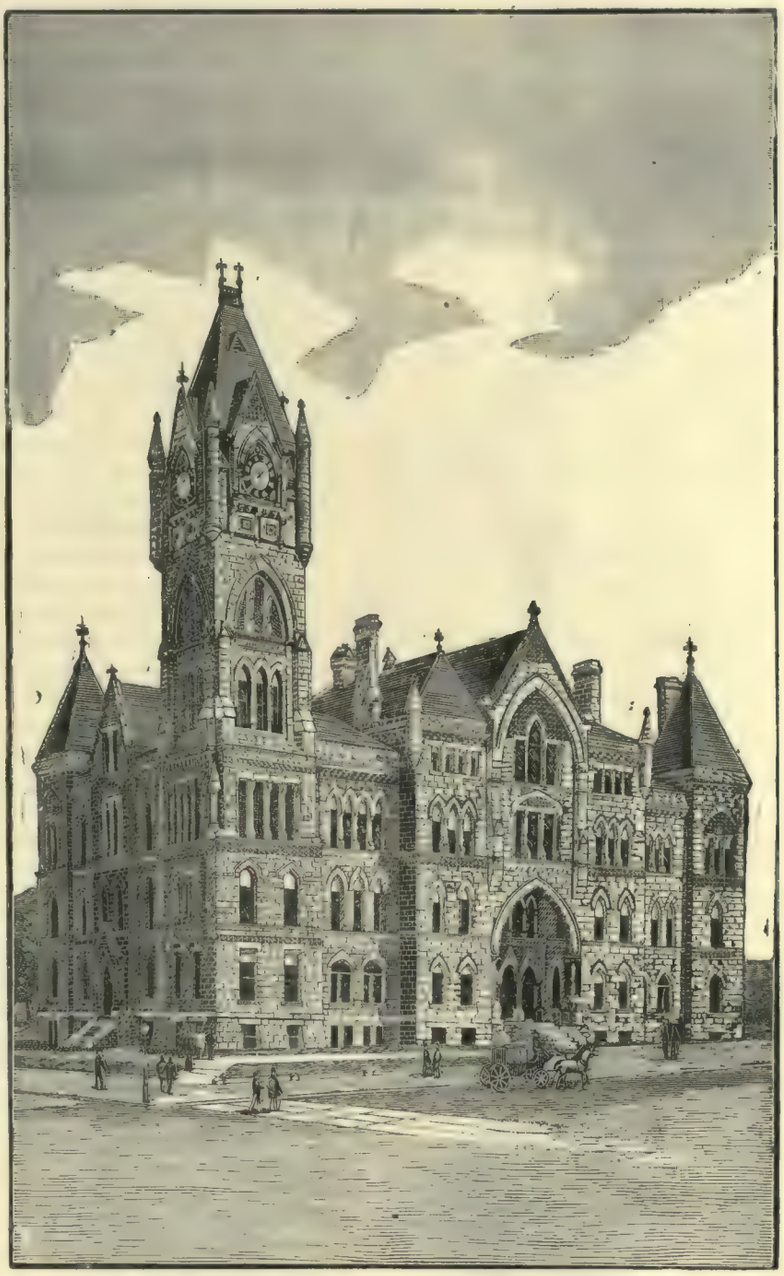
THE object of this new work has been to prepare a concise dictionary of all proper terms used in America and England, but not to treat of words whose etymology is uncertain. It is the only work of the kind ever issued adapted to the wants of the American architect and builder, arranged from a professional and practical standpoint. The illustrations are the most perfect and complete ever presented in any work of a similar standing, and the method used to exemplify on one page the meaning of the terms on the opposite page certainly recommends itself to all. Architectural students of all degrees should order a copy of this work. It is beautifully bound and printed, and will be sent to any address upon receipt of $2.50.

Steam and Water Radiators.

IT will be news to some to know that three-fourths of all the radiators in use in the East are those manufactured by the A. Griffin Iron Co. Not content with supplying over one-half of America, they are making great efforts to secure the entire control of the Pacific Coast, and to this end are shipping weekly car-load lots, so as to fully meet all requirements of the trade. Their very best goods are shipped to this city, and in quantities to suit any demand, no matter how large they may be. C. D. Harvey is the agent on this coast, and may be found at 30 New Montgomery, corner Stevenson Street.

THE curious fact that the usual heat produced by friction is absent when the articles are magnetized, is just now being discussed by scientists who are seeking an explanation. Very striking examples are described in a late number of a scientific periodical. A workman fastened a couple of powerful magnets to his lathe to hold more securely a piece of metal which he wished to drill and turn. The presence of the magnets kept the metal so cold that no water was needed to keep the drill moist and cool. This unusual circumstance may lead to important mechanical advantages. It is such circumstances as the one noted above that lead to valuable discoveries. The scientists, who are looking for a reason why the heat should be absent, may not hit upon any valuable idea, but some practical mechanic probably will.

IN arranging the openings of a room, do not forget the wall space. It is sometimes advisable to build a house to suit the furniture.



DESIGN FOR A PUBLIC BUILDING TO BE BUILT OF STONE.

New Inventions and Improvements.

MESSRS. E. C. STEARNS & CO., of Syracuse, N. Y., manufacturers of hardware specialties, ever responding to the demand for labor-saving tools and improvements generally, have recently produced and added to their constantly increasing line, several new articles, three of which are now ready for the trade. These consist of an improved "Silent Saw Vice," entirely new in design; an excellent door clamp, also entirely new in design, being a departure from the old style iron clamp, and a register and ventilator added to "The McGuire Star Thimble."

These three articles are soon to be handsomely illustrated in our columns.

Garland Trap.

WE are pleased to note that the "Garland Trap" is being used in all our *boom* towns and cities. It is superseding, in this city, all other patents, from the fact that its wonderful efficiency as a preventive of sewer gas obtaining access to buildings, has been over and over again thoroughly proven. See that your architect calls for the "Garland Trap."

MODERN ARCHITECTURAL DESIGNS AND DETAILS. A few copies remain of this really good work. Price, $10.00.

DETAIL COTTAGE AND CONSTRUCTIVE ARCHITECTURE. Similar to the above in general design.

Finials in Sheet Metal.

THE vagaries in designs with which architects are wont to trim public and private buildings at the present time are almost without parallel. There is no portion of a building perhaps where odd conceits are oftener shown than in the finials surmounting towers. Two pieces of work of this kind are shown in the accompanying engravings. One is a very neat design of a finial carrying a vane, and may be asserted to belong to the conventional order of work of this nature. The other, in addition to the orthodox architectural features of the lower part, has a nondescript beast with wings and forked tongue, hanging to the rock. Whatever may be the designs of finials, the question of the material out of which they are to be constructed is a matter of considerable importance to the builder. Sheet metal work is gradually being recognized as the most appropriate article and there are comparatively few pieces of work of this kind at the present time in which this material does not figure as an important element. The designs here shown are selections from a new catalogue recently issued by Bakewell & Mullins, of Salem, Ohio. The work is a volume of 200 pages and contains a thousand or more engravings representing architectural trimmings of almost every conceivable kind ranging on the one side from ambitious allegorical groups and statuary, heroic size, to leaves, rosettes, scrolls, etc. on the other. While the book is only a trade catalogue and intended primarily for the use of the customers of the establishment named, it is more of interest to architects, builders, and sheet metal workers in general on account of the number of designs it contains, more particularily because it shows work that has actually been executed and in many cases indicates the buildings upon which it has been employed. The work is one which will doubtless have a wide circulation.

New Books.

We have on hand the following books, which will be sent to any address upon receipt of the price.

Essentials of Perspective	$1 50
Modern Architectural Designs and Details	10 00
Detail Cottage Architecture	6 00
Leffel's House Plans	3 00
Science of Carpentry	5 00
Mechanic's Geometry	5 00
Artisan	5 00
Artistic Homes	3 50
Mechanical Drawing	1 00
American House Carpenter	5 00
Building Superintendence	3 00
Builder's Companion	1 50
Cutting Tools	1 50
Cottages	1 00
Ornamental Drawing	1 00
Grimshaw on Saws	4 00
Universal Assistant	2 50
Limes, Cements, and Mortars	4 00
Builder's Guide	2 00
Gould's Carpentry	2 50
Trussed Roofs, Ricker	3 00
Amateur Mechanic's Workshop	3 00
Handbook of Legendary Art	3 00
Dwellings, Reed	3 00
Plumbing Appliances	1 50
Modern House Painting	5 00
Stair Building Made Easy	1 00
Cabinet Maker's Companion	1 25
Manual for Furniture Men	1 00
Rural Architecture	1 50
Architecture, Horton	1 50
Wonders of Art	1 25
Common Sense in Church Building	1 00
Old Homes Made New	1 50
Hints on Household Tastes, by Eastlake	3 00
American Cottage Builder	3 50
The Suburban Cottage	1 50
Homes for the People	2 00
Country Homes, Woodward	1 50

Cottage and Farm House, Woodward	$1 50
Suburban Houses, Woodward	1 50
Rural Homes, Wheeler	1 50
Manual of Industrial Drawing for Carpenters	2 00
Illustrated Drawing Book	1 00
Mathematical Drawing Instruments	1 50
Drawing for Carpenters	1 75
Shavings and Saw Dust	1 50
Linear Drawing	1 50
Practical Draughting	1 00
Drawing for Cabinet Makers	1 50
Handrailing and Staircasing	1 50
Painter, Gilder, and Varnisher	1 50
Water Closets	1 00
Sewer Gas	1 25
Steam Engine Catechism	1 00
Paper Hanger's Companion	1 25
Principles of House Drainage	1 00
How To Paint	1 00
Practical Geometry	1 00
Lumberman's Hand Book	2 00
Lien Law	50
Cozy Homes	25
Every Man His Own Mechanic	3 50

CIVIL ARCHITECTURE,
A SPLENDID WORK,
PRICE, $10.00.

COUNTRY

BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on;" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interest of Architects, Contractors, and Material Men.

Alameda.

H. K. Starkweather is having built a $2,000 house on Pearl Street.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

Alhambra.

Completion of school-house frame. Architect, B. J. Reeve; cost, $2,000.

Cutting Tools, for $1.50.
Home Hand-Book, for $10.00.

Covina.

M. E. Church, frame. Owner, M. E. Church; architect, Reynolds; contractor, day work. Cost, $7,000.

Cutting Tools, for $1.50.
Cummings' Details, for $5.00.

Coronado Beach.

The foundation for a new house, the property of Architect Falkenar, has been laid.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

The laying of the brick foundation for the new building to be erected by the Mothodist Society, on the corner of D and Fourth Streets, is commenced. A very handsome three-story brick is projected. The ultimate cost will reach $60,000.

Coronado will have a fine school-house, on a lot 300x500 feet, bounded by E and F Avenues, and Sixth and Seventh Streets, being the second block west of the plaza.

Shavings and Sawdust, for $1.50.
People's Cyclopedia (three large volumes), for $20.00.

Earlham.

A Friends College, to cost $50,000, is projected.

Ruskin's Works (four volumes), for $6.00.
Industrial Drawing for Carpenters, for $2.00.

East Oakland.

Highland Park. Owner, Highland Park College; architect, S. & J. Newsom; contractor, Knowles & Wetmore. Cost, $5,500.

Drawing for Bricklayers, for $1.50.
Drawing for Cabinet Makers, for $1.50.

Garvanzo.

A planing-mill is now erected here.

Woodward's Farm Homes, for $1.00
Woodward's Graperies, for $1.00.

A brick-yard is already at work.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

The town boasts a new telegraph office.

Painter, Gilder, and Varnisher, for $1.50.
Architects' Companion, for $2.50.

A large number of houses are under contract and building in Garvanzo.

Limes, Cements, and Mortars, for $4.00.
Wonders of Art, for $1.25.

Judge Hatch is building a $7,000 house.

Woodward's Farm Homes, for $1.00.
Woodward's Graperies, for $1.00.

A large addition will be built to the Garvanzo Park Hotel.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

Los Angeles.

Three-story and basement brick. Owner, J. Mullally; architect, B. J. Reeve. Cost, $25,000.

Album of Mantels, for $8.00.
Architects' Companion, for $2.50.

Two-story and basement brick. Owner, P. Gaimer; architect, B. J. Reeve. Cost, $11,500.

Manual for Furniture Men, for $1.00.
Common-Sense Church Architecture, for $1.00.

Three-story frame. Owner, Gamable; architect, B. J. Reeve. Cost, $14,000.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

Two-story frame residence. Owner, W. S. Hutton; architect, John Hall. Cost, $200.

Pavilion frame, brick. Owner, D. R. Waldon; architect, H. R. Leonard; contractor, R. W. McIntosh. Cost, $3,500.

Every Man His Own Mechanic, for $3.50.
Tredgold's Carpentry, for $7.50.

Three-story and basement brick. Owner, L. Phillips; architect, B. J. Reeve. Cost. $500,000.

Architecture and Building, for $3.50.
American Cottage Building, for $3.50.

One-story frame and brick. Owner, Mr. S. Callaghan; architect, John Hall; contractor, J. M. Tibbets. Cost, $500.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

Four-story and basement brick. Owner, L. Phillips; architect, B. J. Reeve. Cost, $100,000.

Every Man His Own Mechanic, for $3.50.
Tredgold's Carpentry, for $7.50.

Two-story frame residence. Owner, M. E. Church; architect, Reynolds; contractors, Monroe & Co. Cost, $2,000.

Woodwards' Country Homes, for $1.50.
Practical Perspective, for $5.00.

Four-story and basement brick. Owner, L. Phillips; architect, B. J. Reeve; contractor, Grant. Cost, $160,000.

Woodward's Country Homes, for $1.50.
Science of Carpentry, for $4.00.

One-story frame cottage, brick. Owner, N. J. Rowan; architect, John Hall. Cost, $2,500.

Monrovia.

There are between thirty and forty buildings being erected in Monrovia at the present time.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

Several more contracts are now being let, some of them for very fine residences.

Steel Square Problems, for $1.00.
Workshop Companion, for 35c.

One-story frame cottage. Owner, Mrs. Hutchinson; architect, E. A. Coxhead; contractor, Leitch. Cost, $2,500.

National City.

Griffith & Heat are building a large brick block on Eighth Avenue. The contract is for $9,000.

Practical Perspective, for $5.00.
Builders' Companion, for $1.50.

L. E. Brown has prepared plans for another $15,000 house.

Ontario.

Two two-story brick blocks. Owner, C. P. Lyndal; architect, Geo. Fyfe; contractor, John Geary. Cost, $3,400.

Two-story brick block. Owner, H. O. Bryan; architect, Geo. Fyfe; contractors, McIntyre & Newman. Cost, $2,900.

Grimshaw on Saws, for $4.00.
Mechanics' Geometry, for $4.00.

Pomona.

The demand for building material is so great that a number of carpenters are compelled to suspend operations, awaiting the arrival of some kinds of lumber.

Hand Railing and Stair Casing, for $1.50.
Drawing for Carpenters, for $1.75.

W. H. Sailor is building a house in the Garthside tract.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

J. W. Heckman is building for L. W. Carpenter a $1,600 house on Holt Avenue.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

Henry Warren is building a $1,500 house on Centre Street.

Plaster, How to Make It, for $1.00.
Shavings and Sawdust, for $1.50.

Completing Catholic Church. Architect, B. J. Reeve; cost, $1,500.

Builders' Work, for $5.00.
Building Superintendence, for $3.00.

Redlands.

Jas. F. Drake is having a two-story house built.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

Rialto.

W. H. Wickersham, of Los Angeles, has been given the contract for building the large hotel at Rialto. George B. Robinson, from El Paso, Texas, has taken the contract for doing the brick work. Work on the building will begin at once. The house will cost in the neighborhood of $125,000.

Artisan, for $5.00.
Builders' Guide, for $2.00.

Riverside.

H. A. Westbrook is building a residence on Brockton Square. The edifice will cost $10,000.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

A new chapel is being erected on Sixth Street for the United Brethren.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

T. J. Wood has matured his plans for the erection of a large brick block on Orange Street. It is to be 26x80 feet, two, and perhaps three stories high.

American House Carpenter, $5.00.
Cutting Tools, for $2.00.

Rosecrans.

A large hotel is to be built at once.

San Bernardino.

Architect C. H. Jones has made plans for a one-story building for E. Katz.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

The corner-stone of the new $20,000 M. E. Church was laid with appropriate exercises.

Album of Mantels, for $8.00.
History of Architecture, for $15.00.

The Anderson building, opposite the St. Charles Hotel, will be the largest in the city. It will cost $52,870.

Builders' Companion, for $1.50.
Builders' Work, for $5.00.

The laundry building for the Southern California Road, at this place, will soon be ready for occupancy.

Ruskin's Works (four volumes), for $6.00.
Industrial Drawing for Carpenters, for $2.00.

One-story brick for Katz, $5,000.

Artistic Homes, for $3.50.
Modern House Painting, for $5.00.

Two-story frame for R. H. Skelly, $2,300.

American Cottage Homes, for $3.00.
Builders' Work, for $5.00.

Two-story frame for J. E. Drake, $2,500.

Album of Mantels, for $8.00.
History of Architecture, for $15.

One-story brick for S. Haile, $6,000.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

Two-story office for Russ Lumber Co., $3,000.

Six cottages for S. Weil, $3,000.

San Diego.

An Agricultural Hall is about to be built.

Science of Carpentry, for $4.00.
Universal Assistant, for $2.50.

An opera house to cost $300,000 is to be built in the near future.

Building Superintendence, for $3.00.
American Cottage Homes, for $3.00.

The bricklayers are at work upon the foundation of the new railroad depot at the foot of D Street.

Lumberman's Hand-Book, for $2.00.
Practical Geometry, for $1.00.

The masons have commenced work upon the foundation of the Methodist Church, corner Fourth and D Streets.

Practical Perspective, for $5.00.
Drawing for Carpenters, for $1.75.

Two million dollars' worth of buildings have been lately contracted for, of which half are in the way of construction.

Drawing for Stone Masons, for $1.50.
Building Construction, for $1.25.

Work on the railroad depot at the foot of D Street is being pushed rapidly. A portion of the frame is already in place. The building is to be 40x100 feet.

San Pedro.

Two-story frame. Owner, Mr. Bloomfield; architect, John Hall. Cost, $3,000.

Santa Ana.

Two-story brick. Owner, Dr. Medlock; architect, B. J. Reeve. Cost, $12,000.

Santa Monica.

Episcopal Church, brick. Architect, E. A. Coxhead; contractors, Davidson & Johnston. Cost, $3,000.

San Luis Obispo.

A $200,000 hotel is shortly to be erected, some three miles south of this town, by a company, and ground for the enterprise has already been broken, water pipes are laid, and erection is to be commenced at once.

Mural Painting (new), for $3.00.
Home Hand-Book, for $10.00.

Santa Paula.

Three brick buildings are soon to be erected at Santa Paula, one of which will be occupied by a banking firm.

Album of Mantels, for $8.00.
History of Architecture, for $15.00.

The Alvarado Bridge.

The contract of the county of Alameda with the California Bridge Company to construct an iron bridge at Alvarado, was approved recently by the Board of Supervisors. The contract price is $7,440. The contract for the construction of the new Receiving Hospital was awarded to C. L. Crissman. The contract price is $3,878.

Shavings and Sawdust, for $1.50.
American Cottage Building, for $3.50.

Miscellaneous.

Captain Flavel, of Astoria, will build two fine brick buildings in that city this season. Each will be three stories high; one on the corner of Chenamus and Main, the other on the corner of Chenamus and Cass Streets. The cost of both will be $60,000.

Architecture and Building, $3.50.
American Cottage Building, for $3.50.

A $10,000 flouring mill is to be built in Heppner, Or., this summer.

Woodward's Country Homes, for $1.50.
Plaster, How to Make it, for $1.00.

J. P. Allen will build a large family residence for Will Shoemake, on the northwest corner of Twelfth and K Streets, Modesto. The building will cost, when completed, between $4,000 and $5,000.

American House Carpenter, for $5.00.
Cutting Tools, for $2.00.

Contract has been let for construction of the Despain Block in Pendleton, Or. It will be of brick, and cost nearly $18,000.

Practical Perspective, for $5.00.
Woodward's Country Homes, for $1.50.

Hoffman & Bates, of Portland, Or., have been awarded the contract for building snow-sheds on the Northern Pacific road west of the Cascades, and Hugh Glenn & Co., of The Dalles, for those on the east side. Both contracts will consume about 11,000,000 feet of lumber.

Artisan, for $5.00.
Builders' Guide, for $2.00.

Mr. H. F. Larrabee is drawing plans for a two-story brick hotel, 48x86 feet, to be erected by Mrs. Kornmeyer, on the east side of Railroad Avenue, Oakdale, Cal.

Steel Square Problems, for $1.00.
Workshop Companion, for 35c.

M. J. Mertens has purchased, and will soon erect a fine residence thereon, the lot on the northwest corner of Alameda Avenue and Union Street.

Builders' Companion, for $1.50.
Artistic Homes, for $3.50.

SAN FRANCISCO BUILDING NEWS.

B

Broderick, nr. Fulton. One-story frame.
O.—Mrs M. Clark.
C.—Thos. Elam.
$2,500.

Broderick, nr. Fulton. Alterations.
O.—H. R. Levy.
A.—J. P. Chadwick.
C.—H. Ritchie.
$1,000.

Bryant, bet. Secomd and Third. Three-story frame.
O.—Thos. Green.
A.—W. H. Armitage.
C.—W. E B. Stiles.
$5,500.

Broadway, cor. Buchanan. Three-story attic frame.
O.—A. Addler.
A.—Macy & Jordan.
C.—J. M. Kelly.
$18,000.

Bush, nr. Pierce. Alterations.
O.—S. Nicoll.
$1,500.

Bush and Steiner. Alterations.
O.—Mrs. Goull.
C.—Haner.
$1,800.

Buchanan, cor. Filbert. One-story frame.
O.—L. Zimmerman.
A.—W. Schrof.
C.—T. Merry.
$1,700.

C

Clay, nr. Mason. Additions.
Cost, $600.

California, bet. Kearny and Montgomery Streets. Alterations.
Cost, $1,000.

California, cor. Steiner. Two-story frame.
O.—J. G. Broemmeb.
A.—P. R. Schmidt.
C.—C. hisholm.
$12,000.

California, cor. Baker. Alterations.
O.—P. McGinn.
A.—Mooser.
C.—Hayes.
$2,000.

California, nr. Laguna. Alterations.
O.—O. F. Willey.
A.—J. J. Newsom.
C.—Lynch.
$3,500.

Chattanooga, nr. Church. Four one-story frames.
O.—Comerford.
$6,000.

D

Devisadero, bet. Pine and Bush. Two two-story frames.
O.—Mrs. F. G. Miller.
A.—C. Kenitzer
C.—C. T. Rupple.
$8,000.

Davis, bet. Sacramento and Commercial. Four-story brick and basement.
O.—Mrs. A M. Parrott.
A—Pississ & Moore.
Mason—Riley & Loane.
Carp.—Langstaff.
$75,000.

E

Eighteenth, cor. Howard; three-story frame.
O.—J. E. A. Helms.
A.—Salfield & Kohlberg.
C.—J. J. Dunn.
$9,000.

Eighteenth, nr. Dimond. One-story frame.
O.—R. McGillan.
A.—J. J. Devlin.
C.—F. A. Williams.
$1,500.

F

Fifth, nr. Bryant. Two-story frame.
O.—Klemm.
$1,500.

Fulton, cor. Baker. One-story frame.
O. and B.—T. H. Day.
$2.000.

Fulton, cor. Baker. One-story frame.
O.—Mr. Doyle.
C.—Houston.
$2,500.

Folsom, nr. Fourth. Additions.
Cost, $500.

Fremont, nr. Market. Four-story brick building.
O.—C. R. Bishop.
A.—W. F. Smith.
Mason—C. B. Merrill.
Carpenter—T. H. Day.
$45,000.

Fourteenth, nr. Howard. Two-story frame.
O.—K. Muller.
A.—Salfield & Kohlberg.
C.—A. Klahn.
$2,800.

Fillmore, nr. Hayes. Additions.
O.—Miss A. Hill.
A.—Townsend & Wyneken.
C.—C. F. Coady.
$2,000.

Fourteenth, nr. Guerrero; three two-story frames.
O.—Con McCarthy.
A.—T. J. Welsh.
C.—P. Maloney.
$10,000.

Franklin, cor. Post. Additions, plumbing and painting.
O.—H. Levy.
$4,250.

G

Greenwich, bet. Mason and Taylor. Three-story frame.
O.—Mrs. O'Connell.
A.—G. E. Voelkel.
C.—G. W. Graham.
$3,500.

Green, bet. Octavia and Laguna. Two-story frame.
O.—J. Jennings.
A.—A. J. Barnett.
C.—T. Sullivan.
$3,500.

Geary, nr. Gough. Two-story frame.
O.—Mrs. A. Taft.
A.—H. Geilfuss.
C.—C. E. Dunshee.
$4,500.

Geary, cor. Webster. Additions.
O.—Mrs. Hydenfelt.
C.—McDougall & Son.
$1,500.

Geary, nr. Webster. Additions.
O.—W. Hunt.
A.—H. D. Mitchell.
C.—G. Pattison.
$2,000.

Green, cor. Octavia. Two-story frame.
O. Jennings.
A.—A. J. Barnett.
C.—Sullivan.
$3,500.

Green, cor Octavia. One-story frame.
O.—Mr. Mahoney.
A.—W. Mooser.
C.—F. Grimm.
$2,000.

Golden Gate, south side, bet. Octavia and Laguna. Two-story frame.
O.—A. Fassman.
C.—A. Norton.
A.—P. R. Schmidt.
$11,800.

Gough, cor. Oak. Five flats, stores and cottages.
O.—Geo. Raphael.
A.—Macy & Jordan.
C.—N. R. Ellis.
$12,000.

Green, cor. Octavia. One-story frame.
O. and B.—M. Webber.
$1,400.

Golden Gate Avenue, cor. Larkin. Alterations.
O.—P. Spreckles.
$800.

Golden Gate Avenue, cor. Franklin. Two three-story frames.
O.—W. Gleason.
A.—J. Bestor.
$6,000.

H

Howard, near Twenty-fourth. Frame building.
O.—M. P. Jennings.
C.—Geo. Houston.
$1,700.

Howard, bet. Tenth and Eleventh. Additions.
O.—Sarah Mier.
C.—P. Farrar.
$2,200.

Howard, nr. Thirteenth. Additions.
$1,500.

Haight, nr. Webster. Two-story frame.
O.—M. Kolning.
A.—John & Zimmerman.
C.—F. W. Kern.
$5,500.

Harrison, cor. Fourth. Additions.
$600.

Haight, nr. Devisadero. Two-story frame.
O.—W. Hayes.
C.—Newbert.
$3,500.

Hollis, nr. Ellis. Alterations.
O.—W. A. Searls.
A.—Townsend & Wyneken.
C.—T. Roth.
$1,600.

Hayes, nr. Scott. Two-story frame.
O.—W. Whitefield.
A.—McDougall & Son.
C.—A. Klahn.
$3,500.

Haight, nr. Webster. Two-story frame.
O.—Friedland.
C.—H. Elmwood.
$3,000.

Haight, bet. Fillmore and Steiner. Two-story frame.
O.—J. P. Devine.
A.—Chas. Geddes.
C.—J. and M. Rountree.
$3,000.

Hayes, nr. Broderick. Two-story frame.
O. and B.—C. Keenan.
$3,000.

Haight, nr. Buchanan. Two-story frame.
O.—Mary Deering.
A.—M. J. Welsh.
C.—R. Sinnott.
$5,000.

Hawthorne, nr. Folsom. Two-story frame.
O.—Kenyon.
C.—Dutton.
$2,500.

Hampshire, nr. Twenty-first. One-story frame.
O.—C. H. Munster.
$1,400.

Howard, nr. Thirteenth. Additions.
$1,500.

Howard, cor. Eighteenth. Two-story frame.
O.—J. Davis.
A.—Copeland & Banks.
C.—Wm. Pluns.
$6,000.

Hermann, cor. Jessie. Two two-story frames.
O.—Mrs. A. Kemme.
A.—T. J. Welsh.
C.—P. J. & M. Brennan
$9,000.

J

Jessie, nr. Second. Three-story brick.
O.—Sharon Estate.
Builder—S. M. Hills.
$8,000.

M

Market, bet. Fifth and Sixth. Additions.
O.—P. F. Butler.
A.—T. J. Welsh.
C.—J. J. Dunn.
$5,500.

Mint Avenue, nr. Fifth. Two-story brick.
O.—J. F. Leve.
C.—R. Ringrose.
$2,000.

Mission, nr. Eighth. Three-story frame.
O.—McGeary.
A.—Townsend & Wyneken.
C.—McGeary.
$8,000.

Mission, nr. Twenty-fifth. Additions.
$700.

Mission, bet. Twenty-fourth and Twenty-fifth. One-story frame.
$600.

McAllister, cor. Steiner. Two-story frame.
O.—A. J. Turner.
A.—H. Geilfuss.
C.—R. P. Hurlburt.
$7,000.

McAllister, cor. Fillmore. Two-story frame.
O.—E. Turner
A.—Balczynski.
C.—R. O. Chandler.
$5,600.

Mission, bet. Twenty-third and Twenty-fourth. Frame building.
O.—J. M. Tully.
A.—M. J. Welsh.
C.—Sticker & Son.
$2,000.

Mission, nr. Twenty-eighth. Two-story frame.
O.—M. Boyd.
Day work.
$900.

N

Noe, cor. Castro. One-story frame.
O.—W. Schroeder.
C.—O. E. White.
$1,900.

O

Oak, nr. Laguna. Two-story frame.
O.—J. Kennedy.
A.—J. Marquis.
C.—Martin & Maguire.
$5,800.

P

Page, nr. Fillmore. Two-story frame.
O.—E. W. Spencer.
A.—G. M. Salsbury.
$3,600.

Post, nr. Broderick. One-story frame.
O.—John Murphy.
B.—P. Lynch.
$1,500.

Post, bet. Buchanan and Webster. Two two-story frames.
O.—B. Getz.
A.—J. J. Clark.
C.—C. E. Dushee.
$7,500.

Post, cor. Broderick.
O.—F. Nightingale.
$1,500.

Pine, cor. Baker. Three two-story frames.
O. and B.—G. Hinkle.
$12,000.

Pacific, nr. Leavenworth. Two-story frame.
O.—Wm. Kelm.
A.—Miller & Armitage.
C.—H. Jensen.
$3,000.

Page, cor. Steiner, two-story frame.
O.—Devine.
A.—C. Geddes.
C.—Rountree.
$3,500.

Pine, nr. Broderick. Two-story frame.
O. and B.—D. F. McGraw.
$3,500.

Pine, nr. Broderick. Two-story frame.
O.—H. Welker.
C.—F. A. Steinman.
$3,500.

Pine, corner Baker. Two-story frame.
O.—L. Feder.
A.—McDougall & Son.
C.—Townsend.
$5,000.

Post, nr. Franklin. Alterations.
O.—Mr. Blum.
$1,500.

S

San Jose Avenue, bet. Twenty-third and Twenty-fourth. Two-story frame.
O.—W. J. Tillman.
A.—M. J. Welsh.
C.—J. W. Smith.
$3,500.

Seventeenth, cor. Sanchez; one-story frame.
O. and B.—M. Loftus.
$1,200.

Seventeenth, nr. Noe. One-story frame.
$1,000.

Stevenson, bet. Nineteenth and Twentieth. Additions.
O.—M. and H. Beverson.
C.—J. W. Maher.
$1,300.

Stevenson, bet. First and Second. Four-story brick.
O.—W. Campbell.
A.—Pissis & Moore.
C.—Jas. Geary.
$12,000.

Seventh, nr. Jessie. Two two-story frames.
$3,500.

Sacramento, bet. Polk and Larkin. Two-story frame.
O.—H. Tietjen.
A.—H. Geilfuss.
C.—T. Von Borstel.
$4,500.

Stockton, bet. Broadway and Vallejo. Four-story frame.
O.—A. Aronson.
A.—W. H. Armitage.
Mason.—C. J. Harney.
Carp.—L. Weisman.
$11,000.

Stuart, cor. Folsom. Two-story frame.
O.—J. B. Rider.
Day work.
$4,500.

Sacramento, bet. Steiner and Pierce. Alterations.
O.—Schmidt.
A.—Chas. Geddes.
C.—Geo. R. Lang.
$4,500.

T

Turk, bet. Pierce and Scott. Alterations.
O.—L. Turnker.
A.—John & Zimmerman.
C.—B. Knaus.
$4,000.

Twenty-second, nr. Valencia. Two-story frame.
O.—B. Flaherty.
A.—C. J. Devlin.
C.—H. Foote.
$4,500.

Twenty-fourth, nr. Capps; one-story frame.
O.—Mr. Lang.
B.—Comerford.
$2,000.

Twenty-first, nr. Harrison; two one-story frames.
O.—Mr. Watson.
C.—C. O. Smith.
$4,200.

Twenty-first, nr. Folsom. Additions.
$900.

Tenth, nr. Market. Two-story frame.
$900.

Turk, cor. Scott. One-story frame.
O. and B.—T. Rouke.
$1,500.

Turk, cor. Laguna. Two-story frame.
O.—A. M. Silverstein.
A.—H. D. Mitchell.
C.—G. H. Walker.
$4,000.

Turk, bet. Buchanan and Laguna. Two two-story frames.
O.—J. Davis.
A.—Copeland & Banks.
C.—W. Pluns.
$6,500.

Turk, bet. Pierce and Scott. Two-story frame.
O.—Mrs. L. Trunker.
A.—John & Zimmerman.
C.—B. Knaus
$4,000.

U

Union, nr. Laguna. Two one-story frames.
O.—J. W. Cudworth.
A.—G. E. Voelkel.
$4,000.

Union, cor. Buchanan. One-story frame.
O.—J. W. Cottle.
A.—G. E. Voelkel.
Day work.
$2,500.

Union, cor. Polk. Two-story frame.
O.—J. Cantrell.
C.—M. Shay.
$2,600.

Union, cor. Octavia. Frame building.
O.—F. Stempke.
C.—P. T. Fleary.
$900.

V

Vallejo, nr. Stockton. Two-story frame.
O.—J. Dans.
A.—Cappelletti.
C.—F. C. Adams.
$2,500.

Van Ness, cor. Jackson. Two-story frame.
O.—Nolan.
Day work.
$10,000.

Vallejo, nr. Battery. Two-story frame.
O.—Mrs. J. Campbell.
A.—Townsend & Wyneken.
C.—A. McDonald.
$2,000.

W

Washington, cor. Hyde. Six two-story frames.
O.—Captain Burns.
A.—Clinton Day.
C.—G. Lang.
$32,000.

Washington, nr. Devisadero. Two-story frame.
O.—D. M. Richards.
A.—C. I. Havens.
C.—C. Quinn.
$3 800.

Wood, cor. Point Lobos Road. One-story frame.
O.—J. Murphy.
Day work.
$1,800.

Washington, cor. Larkin. One-story frame.
O.—J. F. Stuart.
C.—R. M. Murry.
$3,000.

Y

York, nr. Twentieth. Two story brick.
O. and B.—B. Vincent.
$8,000.

CARPENTRY MADE EASY.

By Wm. E. Bell, a practical mechanic, who fully appreciates, from personal experience, that there are many things perplexing to understand and difficult to do until they are fully explained and tested. It is designed to make the science and art of carpentry clear and comparatively easy to all who require information on the subject. Price, $5.00 by mail, prepaid.

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PLEASE READ THIS CAREFULLY!!

PERFECT VENTILATION! VENTILATION! VENTILATION!

WITHOUT DRAUGHTS!

The ABRAHAMSON VENTILATOR will produce perfect ventilation. No foul air! No draughts!

PATENTED JANUARY 11, 1887, BY PETER ABRAHAMSON.

THE ABRAHAMSON VENTILATOR IS GUARANTEED TO DO ALL THAT IS CLAIMED FOR IT.

It can be applied in a brick wall or between plastering and outside walls, or hall petitions, also to a car window or house window sash, or between the window sash and cap, or to a door or a transom, or any place where ventilation without draught is required.

Address, PETER ABRAHAMSON, 1022 Hyde St., San Francisco, Cal., for Circulars and Models.

TESTIMONIALS.

Dr. Loryea's New Hamman, 218 Post Street.

San Francisco, Dec. 9, 1886.

MR. P. ABRAHAMSON *Dear Sir:* The subject of ventilation without draughts has been my study for years in the various Hammans that I have built throughout the United States, in order to secure a perfect "Cool Room," which is the great desideratum to be attained in a Turkish Bath-House. Through your invention of the **Window and Door Ventilator,** we have secured every "desideratum that was devoutly wished for," as I have practically tested its merits, and find it works perfectly satisfactory, and can safely recommend it to all who are in search of fresh air without draughts. Yours truly,

A. M. LORYEA, M. D.

San Francisco, Feb. 1, 1887.

PETER ABRAHAMSON, ESQ.—*Dear Sir:* The ventilators you put in my bedroom work to perfection; they keep the air fresh and cool. I would not be without them for double the cost. I can recommend them as the best and most perfect I have ever seen. Any further information will cheerfully be given by calling at 504 Ninth Street, San Francisco. Respectfully yours, PETER A. SMITH, Supt. Cal. Sugar Refinery.

Pioneer Woolen Factory.

San Francisco, Feb. 3, 1887.

MR. P. ABRAHAMSON - *Dear Sir:* In answer to your question whether I find the Ventilators satisfactory, I am pleased to say that, after due trial, both at my house and my office, I find it works to my entire satisfaction, and can cheerfully recommend them to all who are in search of perfect ventilation, without draught. My business is such that I am considerably confined in-doors, so to the subject of ventilation I have given considerable thought, as my experience teaches me how essential it is that we should breathe the air pure and free as nature has provided. I would not be without it, and think it is an article indispensable to every household.

HERVEY PLATT, Supt. S. F. Pioneer Woolen Factory.

San Francisco, March 20, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* I have examined the action of your Window Ventilator in one of the rooms of my house, in which you have applied it; and I find that it produces a strong in-current and out-current at the same time, without making a perceptible draught. The current of air produced by it will keep the air of the room quite pure. It is to be recommended for simplicity and efficiency.

Yours truly, ALFRED W. PERRY, M. D.
(Dr. Perry is a member of the Board of Health.)

San Francisco, April 2, 1887.

MR. P. ABRAHAMSON, Patentee of the Abrahamson Ventilator—*Dear Sir:* I hereby acknowledge that I have had your Patent Ventilator placed in my Court Room Department No. 2, Old City Hall, and that I find it in every sense beneficial for the purposes intended.

JAMES LAWLER, Judge of Police Court No. 2.

Oakland, Cal., March 19, 1887.

MR. P. ABRAHAMSON, San Francisco—*Dear Sir:* After giving your Patent Ventilator a thorough test, I am thoroughly convinced that you have indeed made a most wonderful discovery in furnishing ventilation without creating a draught. I have been using two of them for several weeks and take pleasure in pronouncing them a perfect success in fact I so fully appreciate their usefulness that I should like to obtain from you the agency for this county. An early reply will oblige, Yours truly, E. F. DELGER.

Guardian Assurance Company of London.

San Francisco, April 16, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* Since you placed two of your Ventilators in the windows of our office, corner of California and Sansome Streets, I have noticed a considerable improvement in the atmosphere of the room, and have not felt any draught from their use. Very truly yours,

WM. J. LANDERS, Gen. Agent.

San Francisco, May 17, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* The Ventilator you put in our office pleases us beyond our expectations. The office is kept perfectly cool and without the least feeling of draught. We take pleasure in recommending your Ventilator as the best we have ever seen, and shall be pleased at any time to show the same to anyone you may choose to send us. Very respectfully, ANDERSON & TALLON, 12 & 14 Market St.

San Francisco, May 24, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* The Abrahamson Ventilators that you have put into my Court Rooms at the Old City Hall have given me satisfaction.

I find they are all you claim for them, vehtilation without draught. D. J. MURPHY,

Judge of the Superior Court.

United States Post Office.

Oakland, Cal., May 7, 1887.

E. F. DELGER, ESQ., Oakland.—*Dear Sir:* We take pleasure in giving our testimony to the excellence of the Abrahamson Patent Vacuum Ventilator, two of which are in use in this office and are giving perfect satisfaction.

They maintain a perfect ventilation in the rooms to which they are applied, and we regard them as the best Ventilator of which we have any knowledge. I. L. HANNE, P. M.
L. T. FARR, Ass. P. M.

Architect and Builder.

Oakland, Cal., May 9, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* In the pursuit of my business, that of Architect and Builder, I have been enabled to place a number of your Ventilators in different offices and residences in this City, namely, the C. P. R. R. Co.'s Office at the mole, the Post-office of this City, the *Daily Tribune* Office, Mr. E. F. Delger's Dwelling and Office, and others, all of whom speak of them with the highest praise, recommending them highly to others. In fact I consider your Ventilators indispensable in every office, for their simplicity and efficiency are wonderful. Should you wish to refer any person to me, I shall be pleased to have you do so. I am, Sir, yours, etc.,

J. S. WHITE.
522 Sixteenth St., Oakland. Cal.

San Francisco, June 1, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* I cheerfully certify that since you placed your Ventilators in the Court Room of Department No. 12, Superior Court, the air has been uniformly cool and fresh, and the ventilation has been very good and without draught. Your Patent Ventilator is unquestionably a very meritorious invention.

Very respectfully, J. J. GROOM,
Court Room Clerk, Department No. 12, Superior Court.

Sutter Street Railroad Co. (Cable Line.)

San Francisco, June 2, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* Your Patent Ventilator placed in my office some time ago, has now had ample time to prove its merits, and in my opinion the objects sought by you are largely attained.

The situation is one of the most trying, the wind having full access and force upon the point selected. Prior to the placement of your device, an open window was the forerunner of a very strong draught.

You so arranged the Ventilator that the opening was a matter of option, but with rare exceptions it has constantly remained open day and night. Very truly,

A. K. STEVENS, Sec.

Tribune Publishing Company.

Oakland, Cal., June 4, 1887.

PETER ABRAHAMSON, ESQ.: I have one of your Ventilators in my office. It gives perfect satisfaction, and I take pleasure in recommending it to those who want pure air without a draught. Yours truly, W. E. DARGIE,
Oakland *Tribune.*

Jacobs & Easton, Insurance Agents.

San Francisco, June 6, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* I have used your Patent Ventilator in my bedroom for the past two months, thus having made a thorough test of the same, and I cheerfully recommend it to those desiring the advantage of a constant current of pure air without draughts. Yours truly,

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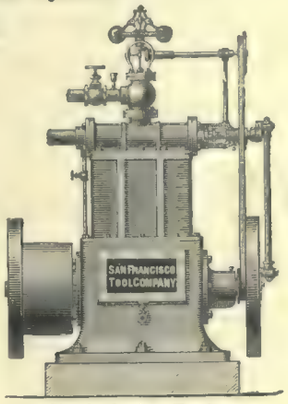

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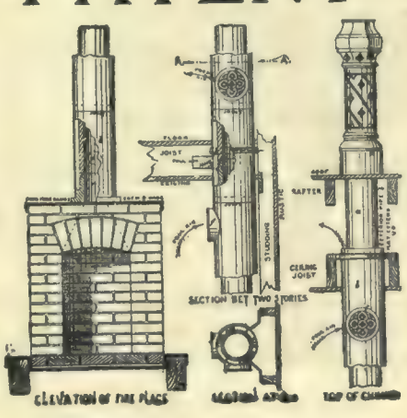

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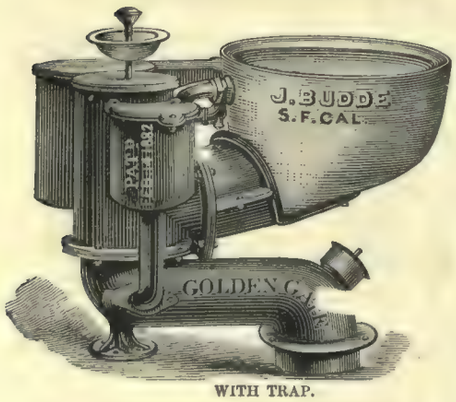

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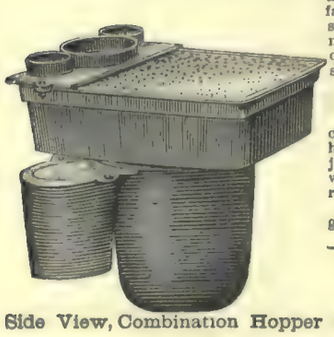

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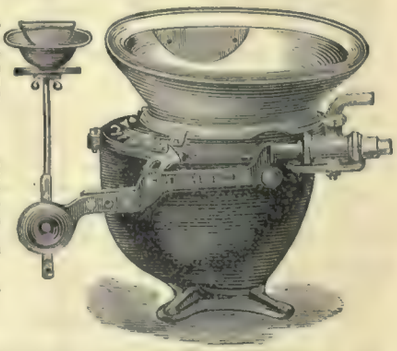

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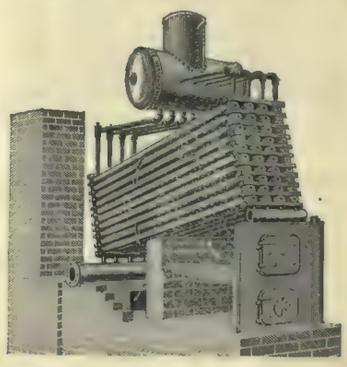

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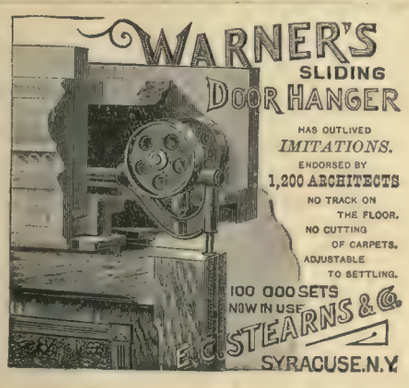

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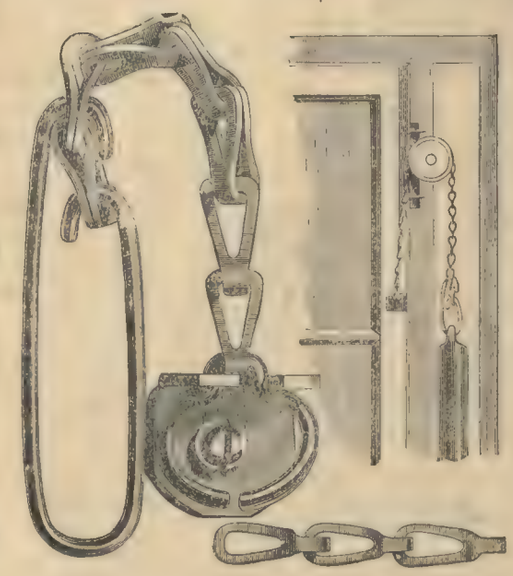

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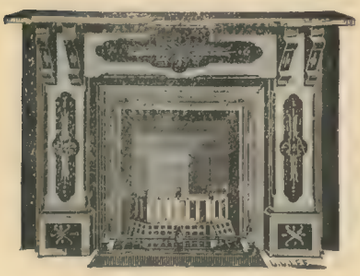

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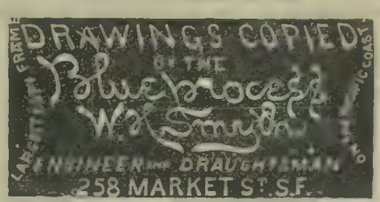

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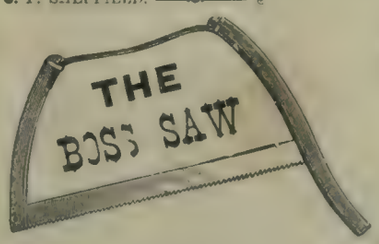

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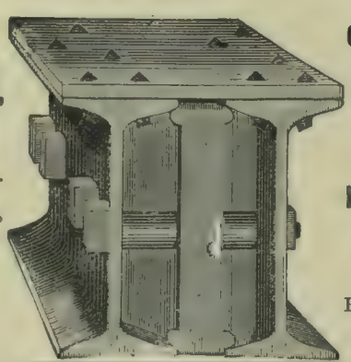

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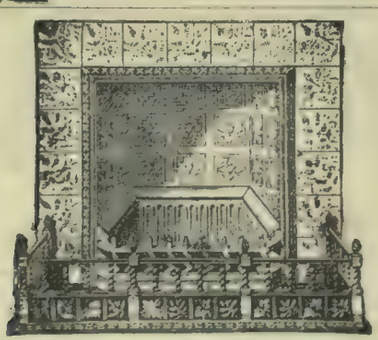

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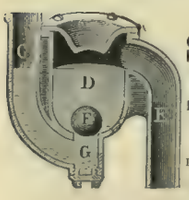

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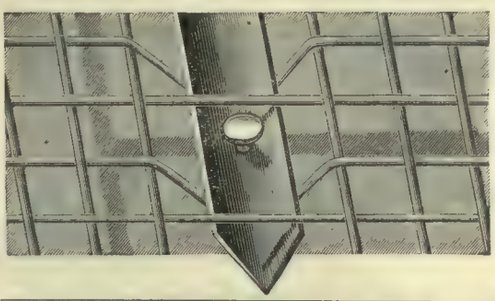

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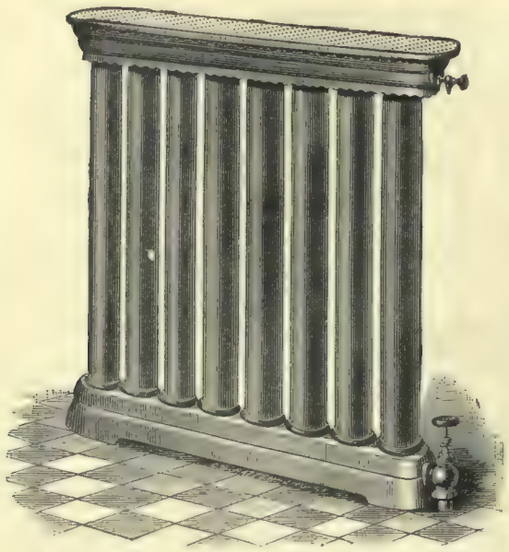

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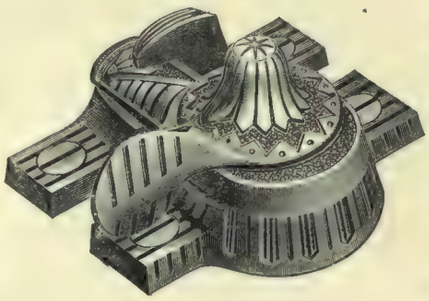

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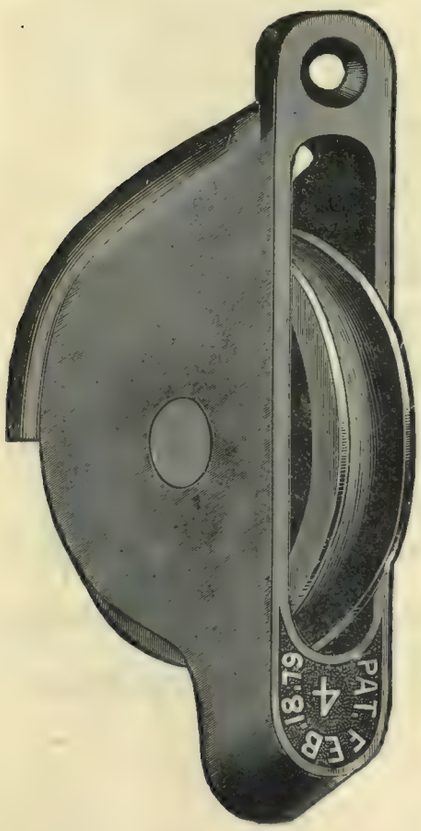

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W. S. SOMERVILLE, Manager, 422 Montgomery Street,

SAN FRANCISCO.

The California Architect and Building News.

Volume VIII. Entered at Post-office, San Francisco, as Second-class Mail Matter. Established January, 1879. Number 10.

THE

California Architect & Building News.

Established January, 1879.

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OUR ADVERTISING RATES.

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Full Page Inside	One Insertion	40.00

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A Square is One Inch In Depth By Width of Single Column.

Advertisements alone inserted that refer to materials used in the construction and Furnishing of houses, and to matters and trades belonging to the building interest.

No Others Received.

SAN FRANCISCO, CAL., OCT. 15, 1887.

Weekly Building Edition

OF THE

California Architect & Building News.

Favorable progress is being made towards establishing our Weekly Edition. Extra pains are being taken to collect building information from every portion of the country. The Weekly Edition will be 10x13 inches in size, and ENLARGED AS OCCASION MAY REQUIRE. It will only contain building news and will not, under any circumstances, be used for any other purposes. Positively no advertisements will be inserted. It will be delivered free to yearly subscribers of the California Architect and Building News. Thus, for the sum of Two Dollars per Year, you will obtain the Weekly Building News, giving you all the latest information, and the California Architect, with its twenty-eight pages of interesting matter connected directly with all branches of the building trades, embellished with several pages of illustrations, showing plans for all kinds of city and country houses. Now is the time to subscribe. **Remaining numbers of this year given free to all new subscribers for 1888.**

The attention of architects is called to the proposals for plans for the Provincial Royal Jubilee Hospital at Victoria, B. C. See page 140.

Baltimore, Sept. 27, 1887.

California Architect and Building News—*Dear Sir:* Our advertisement in your September number is of no value to us, but a positive injury, as you have the cut of the pulley upside down. The screw end is the top of the pulley.

Yours respectfully,

C. Sydney Norris & Co.

While we sincerely dislike to do anything displeasing to our advertising patrons, and especially so when assuming the magnitude of "positive injury," yet we are almost glad that our printer did for once, not knowing nor pretending to know the bottom from the top, perpetrate the blunder of turning things upside down in this case, as it has called out the foregoing communication from the firm interested, and demands of us correction and reply. That a printer might innocently make a mistake of the kind is admissible, but when a competent mechanic, a mill man, who has handled thousands of pulleys, deliberately perpetrates a like error in the practical use and application of the pulley in question, it gives rise to the presumption that some of the gear in his mental mechanical department must be terribly deranged or fractured—very much upside down. For if the mechanical construction of the pulley suggests anything in reference to its proper position, it is that the beveled, dove-tailing end should be placed downward to carry the weight of sash, glass and weights, with the screw in the upper end, simply to hold the head in flush with the pulley stile, the bottom being insufficient for all other purposes.

Messrs. Norris Co. were doubtless provoked almost to madness when the mistake of the printer was noticed, and we can imagine them in a state of frenzy, ready to pull somebody's hair, if not their own; but if they had been called upon to witness what we personally met with during the present season they would have been vexed, *almost* as much as we were, and would have been provoked to say as many naughty words as we uttered, when the window frames containing nearly 200 of the Norris pulleys were delivered at the building with every pulley placed in the pulley stiles just as they appeared in the September issue, top end and screw at bottom, and the beveled bottom end at top.

Had this been the result of a set of "jackknife carpenters'" misconception there would have been the palliation of ignorance or stupidity, but occurring as it did in one of the largest and best equipped mills on this coast, where none but competent workmen are employed, it amounts to a sort of hallucination, in which the faculties became deranged and finally settled down with the wrong end up.

The excuse. When called to an account the reason given was that when the pulley is placed upside down, the letters of the word "patent" are upright, while when the pulley is rightly placed, "patent" is upside down. There is a small thread of argument and reason in this which Messrs Norris & Co. might correct, as to some extent misleading; but this should weigh nothing in the mind of practical mechanics as against the conclusively certain proper position of the pulley, as clearly shown by its construction.

Merits of the pulley. We have never used a pulley that works prettier, nor gives more complete satisfaction, being positively noiseless, which, in comparison with the distressing rattling noise of the ordinary patent pulley, makes them invaluable, and the smooth steel pins of the axles, and the large smooth grooves in the wheels, assure long wear and great service in both pulley and sash cord. They are safe to recommend any time.

San Francisco Chapter, A. I. A.

The regular meeting of the Chapter was held on the 7th inst. and was largely attended. President Pissis presided; B. E. Henricksen, Secretary. After reading an approval of minutes, the reception and payment of bills, and the usual routine of business was transacted, the standing committees made report of progress. The Committee on Fire Ordinances also reported, reciting the facts of the interview with the Committee on the Board

of Supervisors, at which were present of Chapter members, Messrs. Pissis, Welsh, Henricksen, Gash, Wolfe, Bestor, Clark and others. The proposed amendments are elsewhere noticed. Gingero Harmada, having been duly proposed at previous meeting, was elected associate member of the Chapter. Several communications were received from the Secretaries of the A. I. A. and the Western Association of Architects, in reference to the annual sessions, inviting co-operation. But the time limiting the opportunity for action having passed, the matter of necessity went to file. The election of officers for the ensuing year was next taken up, and resulted as follows: President, George H. Sanders; Vice-president, E. Moore; Secretary, G H. Wolfe; Trustees, John Wright, A. Laver, B. E. Henricksen, A. Pissis, James E. Wolfe. Congratulations and general discussion ensued, and the expression of hope and promise that the Chapter, under the efficient leadership of the newly-elected President, would be of the most satisfactory character.

It would be well for the architectural profession upon this coast, if the good and right intent, purpose and work of the Chapter organization could be appreciated and entered into with earnest zeal. Much might be done worthy of doing, and good accomplished without injury to anyone. Why not have it so that there would be an annual gathering of the architects upon this coast, of like character with the other semi-national associations which meet once a year, gathering their members from many States and sections of the country? The American Institute of Architects was the first to organize as a grand or parent organization, for the purpose of concentrating and developing the possibilities of the profession, preserving its grand record of facts and the history of the past as made by the army of worthy men, who, in past periods and ages, did so much to ennoble and magnify the science of architecture. This was followed by other conclaves, embracing one or several States, as the *Western Association of Architects*, and they have all to a greater or less extent accomplished desirable results, and a large degree of enthusiasm attends their annual sessions.

Then why not the architects of this coast enter into the Chapter work, and from thence evolve the *Pacific Coast Association of Architects*, holding its annual sessions, and inviting members of the profession from every section of the United States to visit us? Why not be alive to our professional interests beyond the mere mercenary features, and give a little in time and money to enjoy the rich repayment which would follow and flow through a sectional grand body?

Its Continued Prospects.

NOT boastfully, but in a spirit of appreciation and honest gratitude, we refer to the present healthful and substantial condition of this Journal. It has done well, is now doing well, and the prospects for its future are entirely satisfactory. Its eight years of growth, with their sunshines and storms, has matured it into a thrifty, sturdy and successful enterprise, notwithstanding the many sources of opposition which have aimed to cripple and injure its influence. We do not ask credit for anything brought about by its agency, but those who will follow the currents through from 1879 to the present time, noting the landmarks as they pass along, will scarcely be able to escape the conviction that this journal and its management has exerted an influence in numerous ways for good, and that it has *preceded* in many directions claimed by others as enterprise. No better proof can be asked or given as to its prosperity than reference to its advertising columns, while its subscription list of paying subscribers continues to increase.

Amending the Ordinances.

THE Committee from the Board of Supervisors, Messrs. McDonald, Hawkins and Knorp, with the committee from the Fire Wardens, Messrs. Kelly, Mahoney and Siebe, have for several weeks had before them certain amendments proposed by or from the Fire Warden and Underwriter standpoint, some of which relate especially to building construction, and, therefore, of interest to, and should elicit and receive the personal or delegated attention of, every member of the profession. There is no special duty resting upon any one or limited number of architects to interest themselves in the matter, and if they did, it is altogether likely that the charge of extra officious would be hurled at them by those who will neither do themselves, nor appreciate the doings of others. One of the proposed amendments increases the thickness of walls, and consequently the cost of brick buildings, in that it restricts thirteen-inch walls to the last or upper story only, instead, as heretofore, permitting thirteen-inch walls for the third and fourth, fourth and fifth, etc., stories.

Another proposes to limit the height of buildings to sixty feet from the level of the sidewalk, to the extreme height over all, including main cornice and the horizontal finishes above same. This is insufficient and inadequate as a maximum height, and surely discriminating and unfair as between lots level or on the low or declining grade sides, and those on the high or hill sides of streets—the latter certainly and reasonably requiring greater latitude as to height.

Another proposes relief, by increasing the limit of span between walls, which heretofore has been 85 feet. The amendment suggests 100 feet, but this is opposed by the chief engineer of the fire department, upon the grounds that he *thinks* and *considers* that 85 feet is enough. The architects present before the committee asked that the limit be extended to the full width of buildings erected on 50-vara lots. This was met by the suggestion from the chairman of the committee, that the limit be made equal to two water lots—two-thirds of a 50-vara lot.

Other amendments affecting theaters, halls, and places for public assemblages, elavator shafts, etc., are in the category of the proposed amendments, requiring a great deal of study and just discrimination to render them equitable. The problems involved should receive the earnest attention of several thoroughly practical, qualified minds, to arrive at the best and right conclusion.

The entire ordinance as a whole is a map of more or less crude ideas thrown together in a heap, and nothing short of raking the whole pile over, segregating the good and practical that may be found from the absurd and impractical, and the introduction whole cloth of an entire new construction, will be the successful means of producing a fairly complete fire and building ordinance.

The doubtful and possible of double-construction sections, the unnecessary and absurd requirements and restrictions, the empowering of incompetent men, wholly ignorant of mechanical principles as applied in construction works, to dictate and domineer over those who have applied all the years of their boyhood and manhood to qualify themselves as practical architects or builders, and many other wrong features, render the Ordinance under notice far from fair, just, right and equitable, and most unquestionably objectionable to those who suffer so many vexations and annoyances from an arbitrary, insufficient and imperfect law.

THE Abrahamson Ventilator, a California invention, has proven itself a most valuable and practical device, and is working its way into general use. In addition to the numerous other testimonals in its favor is the fact that it is being included among the indispensable good things in buildings recently erected or to be erected as soon as arrangements can be made—among them, H. Lebes' factory, the three new public schoolhouses, residence of Mr. Swabacher, Clay Street near Franklin, New City Hall, San Jose, Fresno Jail, Presbyterian Churches at Oakland and Alameda, Woodland Bank, United States Mint, and elsewhere.

Building Summary for October.

A summary of our reports shows a decided gain over the similar period of last year. During the month we report:—

63 frame buildings, value		$257,840
2 brick	" "	37,200
19 alterations	"	55,300
84		$350,340

During the first ten months of 1886 the record shows 1,001 buildings; value, $5,107,642.

During the first ten months of 1887, the record shows 923 buildings; value, $5,562,254.

Showing a decrease in *number* of 78, and a gain in *value* of $454,612.

This is a very fine showing. From present appearances the number of improvements made this year will about equal those of 1886, but the value of the same will largely exceed the same in the grand total.

INTERESTING correspondence may be anticipated in the next succeeding issue of this journal, of items gleaned by the wayside, by the editor of this journal, during a trip across the continent, and through nearly all the more prominent cities of the country.

FRONT ELEVATION "WOODLAND" HOME.

A "Woodland" Home.

THE plans and elevation of a "Woodland" home are well worth the attention of those desiring to build a home that will contain all the necessary requisites to make a country or suburban dwelling truly home-like and comfortable. Entering a spacious front hall, you are at once struck with its handsome appearance, a direct view being obtained of the stair hall with its winding stairs. You pass into the large parlors, arranged especially for comfort, and having superior advantages in the way of light and ventilation. Across the stair hall is shown a large sitting-room, in size 16x22, with five windows, giving ample light. Two bedrooms lead off on either side, and a passage to the dining-room. The kitchen is in close proximity to the laundry, wood-house, etc. On the second floor are seven bedrooms, all well supplied with cupboards. Messrs. Gilbert & Son, of Woodland, are the architects, and the plans shown are of only one of the numerous fine dwellings that have been built by this firm.

THE HOTEL VENDOME, SAN JOSE.

Plans and Specifications Adopted—Work to Be Begun at Once.

AT a meeting of the Hotel Vendome Directors, the plans and specifications prepared by Jacob Lenzen & Son, of 75 East Santa Clara Street, San Jose, were unanimously adopted, and by the coming week contractors will be figuring upon the work.

The Hotel Vendome will be one of the most commodious and elegant suburban hotels in the United States. It will be in the Queen Anne style, and no expense will be spared to make it in every way attractive, comfortable, and luxurious—a credit to San Jose and to the gentlemen who conceived the enterprise and are now, with commendable alacrity, carrying it into execution.

The new structure will be situated 250 feet from First Street, which it will face, and 25 feet from Vendome Avenue. It will stand somewhat back of the Maddox residence, as now situated. The latter building is to be removed to the corner of San Pedro Street and Vendome Avenue, and will be used as a club-house, after the necessary changes in both exterior and interior have been made.

The hotel will have a frontage of 254 feet. The central portion, or main body of the building, will have a depth of 210 feet, with which will be connected two wings, each 42 feet front by a depth of 120 feet. The foundation will be of brick, with pressed brick facing, and the building proper of wood. The floors will be all doubled, with mortar deafening.

The basement will be 9 feet clear, the first story 15 feet high, the second story 12 feet, third story 11 feet, attic 10 feet.

The basement will contain dining-rooms for servants, barber shop, fuel and store rooms, bakery, etc.

On the first floor will be the main entrance, 41x66 feet, in which will be located the office, grand stairway, elevator, private stairway, etc. Here, also, will be the dining-room, —x80 feet, with two wings, 30x40 feet, 30 chambers, ladies' parlor, billiard-room, reading-room, baggage-room, etc.

There will be fifty-three rooms on the second floor. Here suites can be extended to seven rooms, if desirable, and on the front nine rooms can be merged into a single suite. Here, also, will be toilets, bath-rooms, etc.

A nequal number of rooms will be on the third floor, with the same facility for suites and an equal number of toilet and bath-rooms.

In the attic there will be forty rooms.

Three towers will rise from the hotel, the central one to be 100 feet high and the others about 85 feet each.

Fire-places will be constructed in each of the principal rooms. Steam will be used to heat the corridors and for other purposes.

The grounds surrounding the hotel will be graded up to the basement, for which no digging will be required.

The stables, laundry buildings, etc., will be situated at some distance in the rear of the hotel.

Jacob Lenzen & Son will have the plans sufficiently completed in detail by Tuesday to permit contractors to make estimates upon the different portions of the work, which Mr. Lion states will be pushed forward as rapidly as possible.

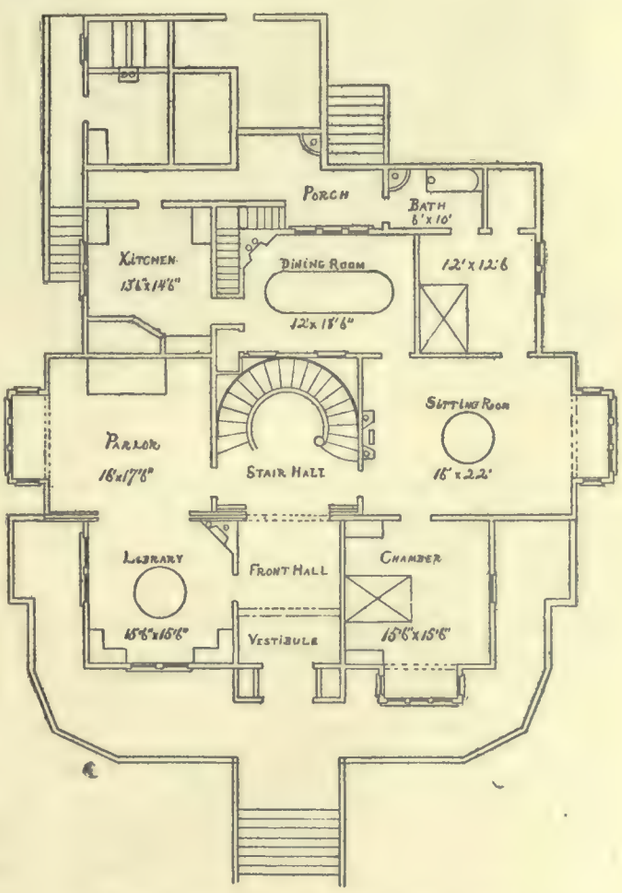
NEW WORKS JUST RECEIVED.

"MANTELS AND SIDE WALLS."

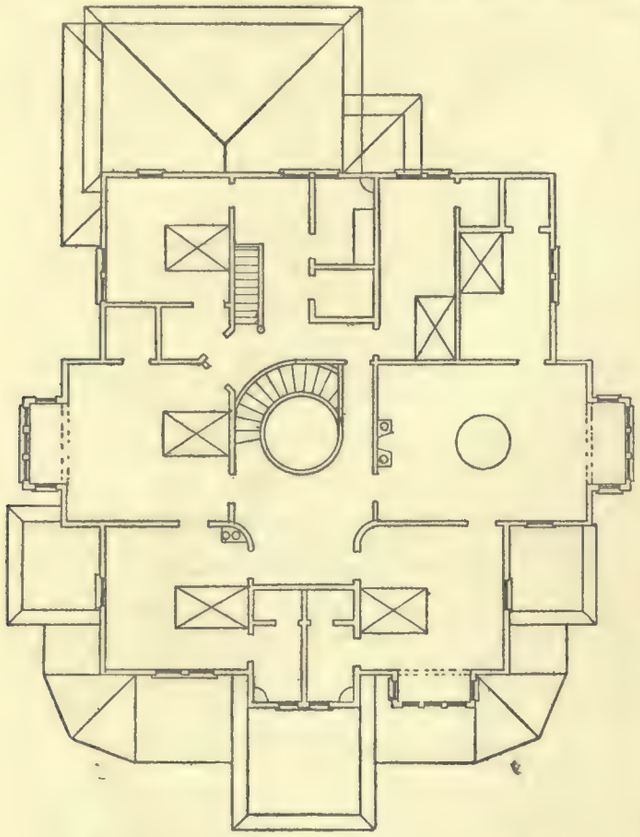
THIRTY-TWO lithographic plates in a portfolio representing designs in the *Cheminee*, Louis XIII., and Louis XVI. styles. Also plates showing various accessories such as mirrors, decorative panels, wainscoting, clocks, etc. These plates are all by the celebrated designer, M. Prignot. Price for portfolio, $5.00.

"SHORT HISTORY OF ARCHITECTURE."

FROM Chas. Scribner's Sons we have received a copy of this new work by Arthur Lyman Tuckerman. The general design the author had in view was to trace the origin of each style, its characteristic points, and its connection with those which preceded and succeeded it, without introducing technical terms or any but the most important dates. All the great historical events are presented within a small compass. A fuller description will be given soon, as the book was received too late for an extended notice.



FIRST FLOOR PLAN "WOODLAND" HOME.



SECOND FLOOR PLAN "WOODLAND" HOME.

Industries in Lumber.

AS San Francisco is the great maritime center of the woodlands of the Pacific Coast, it would seem to be a foregone conclusion that it should be the seat of great industries in lumber. Add to that the fact that most of the houses of the coast are of wood, and it should appear as if it ought to be overshadowing. As a matter of fact, however, some other special lines of industry surpass it in importance. The quantity of lumber consumed in California in the course of a year is about five hundred and sixty-four million feet, of which two hundred and sixty million feet come from Puget Sound. Thus very nearly two-fifths of the whole is imported. The value of the whole in the State is about eleven and a quarter milllons of dollars. Of this San Francisco handles yearly three thousand million feet, worth six million dollars, all coming from the coast from Puget Sound to the Golden Gate, and employing quite a fleet of vessels in its transit. Thus far the raw material which the planing-mill, the manufacturer of doors and sashes, the producer of furniture, the manufacturer of boxes, converts into myriad forms of usefulness and many of beauty. The planing-mills of San Francisco and the manufactures of sashes, doors, and blinds, equal about six millions of dollars in value. Besides supplying lumber for house building to the city and suburbs around the bay, we export largely of doors, sashes and blinds to every port on the Pacific. The furniture industry will equal in value this year a million and a half of dollars, and what magnificent furniture we can turn out anyone may see for himself in the pavilion. Our box makers have a great field to supply. The value of the product this year will not be less than a million and a quarter dollars. There is a great increase, owing to the heavy packing of canned and dried fruit and of salmon. Cigar boxes of themselves equal in value say $250,000. We have not included cooperage stock in the value of lumber imports to San Francisco, but from the extension of our wine and beer industry the value of cooperage made in San Francisco cannot fall short of a million dollars. Carriages and wagons, of which there are some fine specimens in the fair, will equal a million dollars in value. We will make nearly a hundred thousand dollars in value of billiard goods. Our wooden-ware factories will add to the value of our industries in this line not less than two hundred thousand dollars. The totals of the leading industries noted will not be less than eleven and a half millions of dollars. The grand total of San Francisco's industries in this line will at least equal thirteen millions of dollars. The processes of manufacture, therefore, on the whole about double the value. The importance of this interest must steadily increase, and it must grow even more rapidly than the growth of the city.

California Veneers.

CALIFORNIA sycamore is a wood that is as little known as it is handsome. It has the appearance of quantities of fine vertical lines close together and generally wavy. It looks very much like the Eastern beechwood, and before its value for finishing and decorating was discovered it was used for cigar boxes. It is called buttonwood in New York. Sycamore is used principally for veneering, as it is very strong and can be cut easily. It is a very unostentatious wood, being rather fine in its markings and quiet in its shades.

For fancy decoration, panels of furniture, doors and other places where a highly marked wood is required, the redwood, laurel, sycamore and walnut are greatly used. They are usually found handsomely marked. The redwood is probably the most used, as it is not only cheap, but is very beautiful. More variety can be found in this wood than in any other. The walnut is still used, but is gradually giving place to the fancier and more modern woods. The tendency nowadays is to make furniture from lighter and fancier material than formerly, and the somber, gloomy walnut, with its massive appearance, is gradually giving place to the lighter woods.

The finishing of a house is usually done by veneers, as it is cheaper and just as satisfactory as solid wood. The wood is cut into veneers of about one-eighth of an inch in thickness, and they are then planed and polished until reduced to the required dimension. In very hard woods such as the mahogany, the veneers are very thin indeed, being a thirty-second of an inch in thickness, and often thinner. The polishing is a somewhat slow and laborious job and is always performed by a skilled and special man. It is done by rubbing the wood with boiled linseed oil until it assumes a high polish. Only hard woods can be used, because others do not take a good polish, nor do they last for any length of time.

It is only during the last eight years that the finishing of houses in natural woods has come into prominence at all, and up to a very few years ago this style of interior decoration was used by few except the rich and esthetic, but of late it has sprung into a deserved prominence. When two or more woods are combined the effect is often very handsome, and the many who are using this method of finishing attest its popularity.

The wood must be cut so as to bring out the figure, or the markings of the wood, otherwise it is worthless. To do this requires great skill and knowledge of the natures of the various woods. Occasionally an apparently worthless piece of wood is found which will contain some very fine and striking markings, in which case somebody usually makes a small fortune, for the prettier the markings the more valuable the wood. The wood generally used comes from Santa Cruz. Occasionally a piece is found which will contain some perfect figure, as an animal, a head or some geometrical figure. This wood is, of course, very valuable and greatly prized.

The figuring in woods is generally attributed to the fact that the bark of a tree outgrows the interior, and then becomes wrinkled in the attempt to fit itself to the tree. The tree comes to its assistance and attempts to fill up the wrinkles, thus causing the markings. Woods that grow in well-watered soil are always most highly marked on this account.—*Wood Worker.*

"ARTISTIC HOMES."

GEO. W. MYERS has forwarded us a copy of "Artistic Homes." The price is $1.00. It contains thirty-two designs of various kinds of dwellings and is well worth the price asked.

"RECENT PRACTICE IN SANITARY DRAINAGE."

THIS is No. 93 of Van Nostrand's Science Series. The full title is, "Notes Embodying Recent Practice in the Sanitary Drainage of Buildings, with Memoranda on the Cost of Plumbing Work," by Wm. Paul Gerhard, C. E. For sale at this office. Price, 50 cents.

THE HANDSOME ILLUSTRATION OF THE NEW ST. MARY'S CATHEDRAL to be built on the corner of Van Ness Avenue and O'Farrell Street, is taken from the *Inland Architect and Builder*, of Chicago. The editors of that journal kindly furnished us with an electro of the cut, by which we are enabled to present to our readers a beautiful view of the "great cathedral" of San Francisco.

The New City Hall of San Jose.

HEREWITH is presented a view showing the front elevation of the new City Hall. This structure will be one of which San Jose may justly be proud. From the view here presented it may be seen what an imposing edifice it will be.

As seen from the engraving, which shows the north or main front, the structure will be two stories with a basement. In the center of the front will arise the clock tower, and chaste pavilions will ornament the four corners. The finish on the four sides will be similar. The windows are large, with semicircular tops, and they will give the building a light, airy appearance. The style of architecture is modern, with a blending of Grecian, presenting a solid but ornate appearance.

The edifice will be of brick. The basement, laid in the excavation already made, will be of solid masonry plastered on the outside to represent stone work. Above the basement the exterior will be pressed brick, the interlying mortar striped with black putty. The steps to the vestibule, the lower floor, and the coping will be of granite; the water tables, window sills, etc., will be of artificial stone; and the ashlars, cornice, and general trimmings will be of terra cotta. There will be appropriate projections and recesses in the sides so as to avoid sameness and give a symmetrical outline to the whole.

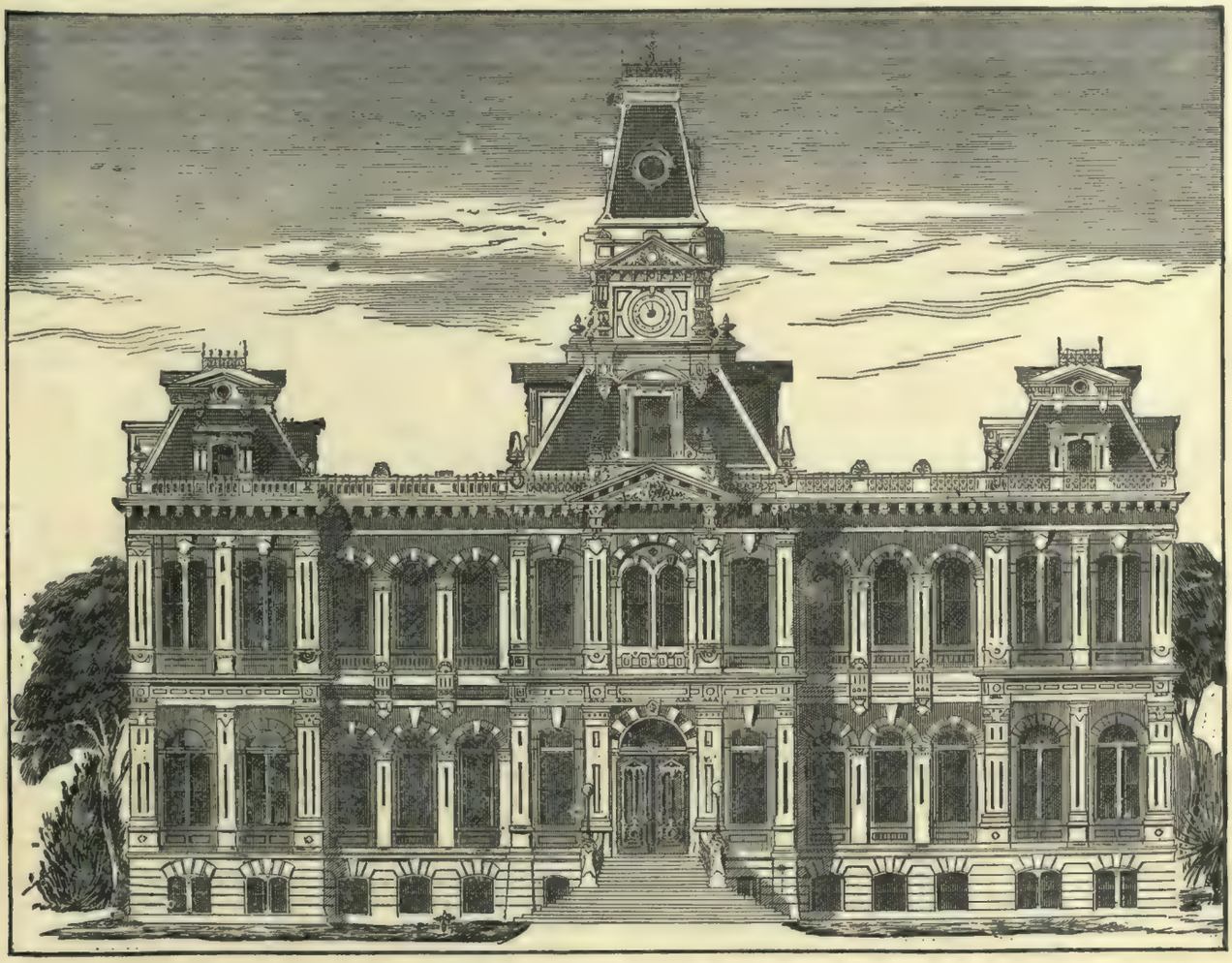
The inside finish is in keeping with the exterior. Care has been taken to secure the very best means of lighting, arrangements having been made for either gas or electricity; also for supplying water throughout the building. and for draining. The heating apparatus, likewise, has been carefully attended to, and will be either by steam or hot-water radiation.

The basement will be provided with a passage through the center for the accommodation of carts bringing coal and other supplies, and the police carriage. In the basement will be the offices for the police, the jail, and rooms for the storage of supplies, and the furnaces and engines for the use of the building. The rooms in the basement will all be ten feet six inches clear in height, and the walls will present a brick finish.

The first story presents a spacious vestibule and entrance facing Market Street, looking northward, and a side entrance facing San Antonio Street. The front entrance is 32x34 feet, opening into a lobby 18x44 feet, which connects with two stair halls, 20x50 feet. On the west side of the main entrance is the Mayor's office, and two rooms for the Treasurer. Back of these will be the witness room, connecting with the Police Court room, 40x40 feet. On the east side will be the office of the City Attorney, of the School Superintendent, and, connecting with the latter, the room 20x30 feet for the Board of Education; also a jury room. All the rooms in the first story are to be plastered and will be 21 feet 6 inches high.

Two large stairways conduct from the lower to the second story. In the front part of this story, under the main tower, will be the Council Chamber, 32x84 feet. On this floor will be the offices for the City Assessor and Clerk, the City Engineer, a reading-room, and a large hall, 30x40 feet, for the Free Public Library. The rooms in the second story are to be 24 feet clear.

Should there be a demand for the space the pavilions may each be fitted up with one or more comfortable rooms. Likewise in the tower several fine rooms might be arranged. The room under the belfry, and just over the clock, provided with four oriel windows, will make a fine lookout, commanding a view of the whole city and the surrounding country. A stairway is provided for the tower to ascend to the upper deck.



THE NEW CITY HALL OF SAN JOSE.

The main building will be 132 feet long, facing Market Street northward, and 93 feet deep. The height of the main building will be 60 feet, and that of the tower to the upper deck 112 feet.

The awards for the construction are as follows: F. Altman, cast-iron work, $1,887; F. Kuchenbeiser, wrought-iron, $5,890; Coombs, Blanchard & O'Neil, granite, $5,150; P. R. Wells, masonry, carpentry, painting, plastering, and plumbing, $117,000. Total contracts let, $129,927. Estimated costs of other works, vaults, safes, etc., $3,000; furnaces for heating, $2,000; extra plumbing for electric apparatus, $250; elevator, $250. To these figures add the allowances for the architect's services, 3 per cent, and the total cost of the building will be $139,489.

For the details of this description, as well as for the use of the engraving, the CALIFORNIA ARCHITECT returns due acknowledgment to the architect, Theodore Lenzen, of San Jose.

The Mechanics' Fair Exhibition.

THE fair lately held in this city is justly regarded as the most successful that the Mechanics' Institute has ever conducted. It is impossible to give a complete account of all the exhibits, but such of those more directly connected with the interests of this Journal are here noted.

CUT AND ORNAMENTAL GLASS.

John Mallon, of 17 and 19 Fremont Street, presented a beautiful variety of cut and ornamental glass. The designs of the latter were more than usually attractive, and many were the comments upon the push of business ability shown by Mr. Mallon in introducing the artistic designs presented.

BRASS BEDSTEADS.

E. H. Marwedel, of 541 Market Street, had a full assortment of brass bedsteads and cornice poles. Each time we passed remarks were overheard praising the general neatness and appearance of the old but new-fashioned bedsteads, with many wishes for the fashion to change again in their favor.

TOWNSEND'S "HOUSEHOLD TREASURE."

C. H. Townsend, of 440 Fifth Street, had samples of his improved kitchen table, yclept the household treasure. Convenient receptacles are found for all the various manipulating articles most in use by the thrifty housewife.

MAHONEY BROS.' RAILROAD CARS.

These gentlemen should be awarded a gold medal for the beautiful car exhibited, to be used on the Powell Street Railroad. For excellence of material, perfect character of the work employed, artistic arrangement of the various accessories needed, these cars stand the peer of any in use on any cable line in the United States. Mr. Thomas Downing, by his artistic skill as a painter, has done his share towards the achieved success of these cars. Mahoney Bros. deserve a fitting recognition at the hands of the workingmen of San Francisco, for endeavoring to build in our midst a factory that will give employment to scores of the wage workers of the city.

INTERIOR DECORATIONS.

A fine assortment of wall paper, lincrusta—walton, etc., for interior decorations was shown by G. W. Clark & Co., of 645 Market Street. Some of the patterns were very beautiful, and owners will do well to examine the same.

KRELING & SONS.

One of the finest displays in the fair was made by this firm. The furniture and bric-a-brac ornaments commanded the attention of observers, while the richness of the designs of the mantels and the good work shown in every little detail, proclaimed that someone was at the head of the firm who made a study of turning out only designs and material of the very finest workmanship.

MAMMOTH STICK OF LUMBER.

Renton, Holmes & Co. had on exhibition the largest stick of timber ever sawed in a mill. It was 20 by 20 inches in size, 151 feet long, and contained 5,033⅓ feet. But very few knots could be seen throughout the whole length of the stick.

FIRE HOSE.

W. T. Y. Schenck exhibited all grades of rubber and cotton hose, and samples of all the paraphernalia incident to the complete equipment of a fire department.

ABRAHAMSON'S PATENT VENTILATOR.

Mr. Abrahamson personally attended to his own ventilators, and explained to the thousands who inquired the working of his patents. He had models of old and new windows, and showed how the ventilators could be adapted to each; also the method of placing them over doors. For full particulars of Mr. Abrahamson's inventions, our readers are referred to page vii of this issue.

STOVES, RANGES, ETC.

George H. Tay & Co. deserve more than ordinary mention for the excellent display of articles in their line. One stove should be particularly noticed. It combines all the features of a handsome parlor ornament with the utility of a cooking stove. Placed in a dining-room, it serves the purpose of heating, and can be used to boil tea, coffee, etc., without in the least affecting the beautiful design. Messrs. Tay & Co. also make a specialty of the hot-water system of heating houses. They should be consulted by owners who desire to have houses thoroughly heated at a minimum expense.

FINE BUTTS AND LOCKS.

Frank P. Latson had a beautiful exhibit of fine bronze hardware, such as locks, butts, etc. All the higher grades were represented, and called for much praise from those interested.

SCHUSTER BROS.

These gentlemen tried to outdo their competitors in having a large show of stoves, ranges, granite ware, etc. In the latter item the ladies seemed particularly interested.

SIMOND'S SAWS.

John Simonds, of 511 Mission Street, exhibited a very large and beautifully arranged assortment of saws of every conceivable design.

LUMBER.

Harris & Jones, 838 Bryant Street, showed the immense throng what California can do in the way of lumber. Their display of sugar pine, yellow pine, etc., attracted much attention.

LIGHTNING SAWS.

Union Saw Co., represented by J. F. Wyman, presented a very attractive arrangement of saws of every conceivable design. Their improved lightning cross-cut saws were the subject of much comment from those who go down in the woods to earn their daily bread.

SUGAR PINE.

Towles Bros., of Nevada County, had two sections of a tree, the first being cut 3 feet above ground, about 12 inches thick, and over five feet in diameter. Another section from the same tree, 161 feet from the ground, was 4 feet 6 inches in diameter. They were deservedly worthy of the attention bestowed upon them.

SONOMA'S LARGE TIMBER.

From the Big Bottom Mill, Sonoma County, a section of a tree was shown over seven feet in diameter.

SAN MATEO'S GRAND LUMBER.

Hanson & Co. take the palm on the exhibit of fine lumber from La Honda, San Mateo County. One plank shown was 13 feet long, 50½ inches wide and 3 inches thick. It was perfectly clear, not a knot in its whole length. Also another piece dressed on all sides and edges, 12 feet long, 50 inches wide, 1½ inches thick, absolutely free from cracks or knots.

CALIFORNIA WIRE WORKS.

"A magnificient exhibition of one of the industries of the coast." Such was the gist of the remarks made by thousands upon viewing the grand display by the above company. Their wire cables attracted unusual attention, from the great size and exquisite workmanship. Crestings, fences, finials were also in abundance.

HILLS' PATENT BLINDS.

It is but a short time since these blinds were manufactured in this city, yet by the persevering energy of Mr. Hindes this industry is growing of colossal proportions. The first factory was started "Los Angeles Way." That was entirely inadequate to do the work required. So branch after branch was established in various parts of the State, until Hill's Patent Blinds have become household words among builders. Mr. Hindes has associated with him Mr. Murray, a man of practical ideas, who insists that his workmen perform every little detail of the various parts of the work with the utmost exactness. These blinds have been indorsed by all the leading architects of the coast.

HUMBOLDT COUNTY.

Just a slice off a redwood tree, but oh how beautiful! Over four feet in diameter, with part of the bark left on for a border, and polished so one's face could be distinctly seen. The specimens of redwood shown were simply grand.

BUNDY RADIATORS.

"Whew, how hot! and where does all this heat come from? Surely not from that little furnace." Many were the remarks the substance of which is embodied in the above. The new furnaces now being introduced by Mr. Harvey are giving complete satisfaction and are a wonder in two particulars—economy of space and the small amount of fuel needed. The radiators are of a new pattern and are very handsome in appearance. Any inquiry in regard to heating apparatus will be answered by addressing C. D. Harvey, 30 New Montgomery Street.

REDWOOD.

What a Worker in all Kinds of Wood Has to Say about California's Great Production—An Experience of Fifty Years.

EDITOR *Wood and Iron:* In response to your question, of "What do you know about redwood?" I will state a few facts, which all acquainted with the wood, I am sure will certify to, viz.: That it stands *first* for general use of all woods known. None are perfect in all requirements, but the redwood certainly comes nearer to perfection than any other known in our day; this I, after fifty years' practical experience, can certify to. There are the Brazilian and Mexican rosewoods—they can never be depended upon for holding together with glue; they are full of oil—destroy the oil and you destroy the beauty of the wood. *Per contra*, no wood in the world holds better than our redwood when glued. There is the St. Domingo, the Cuban, the Mexican, and the Honduras mahogany, all beautiful woods, but for general use and for beauty they pale before our redwood. There is the Spanish cedar, I suppose a member of the mahogany family; it is full of gum; no matter how much polish may be put upon it, the gum forces its way through, and it is impossible to keep it smooth. No such trouble affects our redwood. I have pieces that were polished years ago, have been kicked about the shop, sometimes outside, sometimes in, but the polish is there—no gum exudes through that. There is our own beautiful walnut, a melancholy wood, carrying one back to the funeral of his grandfather; a room fitted up with it looks more like a morgue than a dwelling—nothing cheerful. But mark! I have an order for walnut doors, we will say; the order is imperative; they must neither warp, twist, nor shrink; they must keep their place in all weathers, at all stations of the mercury in Fahrenheit they must not move. Do I trust the walnut? No, no; I cut redwood into segments, make a redwood door, and put a thin coat of our walnut *on the outside*. The redwood is the only wood that will fill the bill required above.

In connection with this, I would say that I have tried white pine (Canadian), sugar pine, Port Orford cedars, and other woods; none come up to the mark like our redwood. There is the butternut, the chestnut, and other woods of the walnut family—they are used for their excellence in holding glue, hardly ever seen upon the outside. The walnut and the butternut produce a burl, but far inferior in quality, in size, or in beauty to the redwood burl. I have some in my possession ten feet long. Not even the far-famed burls of the Danube, which, when landed in America, bring almost their own weight in gold, exceed in beauty the burls of our beautiful redwoods. There is the pine, the whitewood, the basswood, and others of the whitewood family, which can be used for certain purposes only. Our redwood fills all their bills, and for beauty and the quality of keeping its place, it allows of not even a comparison, it is so far ahead.

Then come our oaks—the live oak of Florida, the white, the black, the red of the Eastern States and Canada—not one of them equals the redwoods for general utility or beauty. The white oak cracks by seasoning, and cannot be depended upon until stacked up for years; the red oak you can blow through a piece ten feet long. Our redwoods have none of those failings. Then there is the ash. After being for a few months in use, the grain will rise and sliver, especially if it is knocked about a little. It also produces a burl, but far, far inferior to our majestic redwood.

But if I do not tire your patience, I would like to contrast the treatment of those woods that are turned out as lumber in the East and in Canada with the treatment given our redwoods: In the first place, they are cut down in the forest when the *sap is down*, in cold weather. They are hauled to the water, in which they are allowed to swim for months, then carefully sawed, carefully piled; strips are nailed upon the ends of the better boards to preserve them from splitting; they are well and carefully treated; they are left in the water until the little sap left in them is thoroughly washed out. Well do they understand how to make the best of what they have.

Now for the contrast. The redwood is felled at any time, mostly when the sap is running and the tree full of life. It is hauled to the mill directly, where, if handy, a vessel lays; piece by piece, as fast as sawed, it is loaded close together in the hold—in the forest to-day, to-morrow at sea in the shape of lumber. Arrived in port, it is sold immediately, or perhaps ordered before it was cut; loaded upon wagons, and built into a house or barn almost instantly. Now it goes there full of sap or life; that dies, decays and rots in the lumber. It is brutalized, murdered, abused most shamefully—not through ignorance, for all mechanics should know that no well-made lumber is allowed to retain its sap when put to practical use.

Compare this murderous abuse of our redwood with the care bestowed upon the others, and you will wonder no longer that its beauties have been passed over; it being plenty, it was made to be abused; it being a *home product*, it was voted no good; it being cheap, and no import duties to pay, of course then it could not be of any value.

Now, gentlemen in the lumber business, treat it better; cut at the proper season; dry and season in the proper manner; give it a little care and attention, and it will well repay the trouble. Let some wholesome law be enacted for its protection, at least from vandals; and know that if we stand first in the production of the precious metals, first in cereals, and first in climate, we also stand first in the most beautiful woods on the face of mother earth—the largest, the highest, and the most beautiful. But even the most beautiful has been destroyed through ignorance.

Now a word to the finishers or varnishers that do not understand the treatment of redwood. Would you daub a piece of Danubian or, as it is called, French walnut, with oil? You know you would ruin it, destroy its grain and tints forever. Well, the redwood requires the same care as that, no more, and then you can preserve its beauties for many, many years. The following recipe is one at least that preserves its color and tints for years, for the truth of which I can show anyone interested. Use as near as may be the following proportions:—

Take one quart spirits of turpentine.
Add one pound corn starch.
Add one-fourth pound burnt sienna.
Add one tablespoonful *raw* linseed oil.
Add one tablespoonful brown japan.

Mix thoroughly, apply with a brush; let it stand say fifteen minutes; rub all off you can with fine shavings or a soft rag; then let it stand at least twenty-four hours, that it may sink into and *harden* the fibers of the wood; forty-eight hours is better. Afterward apply two coats of white shellac; rub down well with fine flint paper; then put on from two to five coats of best polishing varnish, as the openness of the grain requires; after it is well dried rub with water and pumice-stone ground very fine; stand a day to dry; after being washed and wiped clean with chamois leather then rub with water and rotten stone; wash as before; lay it one side to dry; clean and rub with olive oil until dry. If you have been careful to fill up all the pores perfectly you have a polished wood that surpasses all others; if you have not the pores or grains perfectly filled, of course you must apply more rubbing with pumice-stone and more varnishing until the object is attained; and, friend, you would have to do the same with any other wood. To add weight to what is told in these few lines, I would say that when such architects and artists as Percy & Hamilton, Wm. F. Smith, and others, have indorsed the redwood and its beauties for years, and have worked wonders in bringing it into notice, for mantels, wainscoting, doors, casings, and other inside decorations not necessary to detail, giants in their professions, they have used their beautiful art in connection with their refined taste to render our redwood where it now stands, "Excelsior." I have sent, some twenty months ago, by ship *Santa Clara*, to New York, thence by rail to Brattleboro, Vermont, to the order of Mr. Brooks, enough to finish two large rooms. This spring I have made and shipped to New York, per order of Mr. DeWitt, mantels, desk for library, door for library, library table, and all the casing for doors and windows and other mouldings required in library and bedroom. I have sold samples to every State in the Union, and feel confident that it is but a question of time when pianos, inside decorations of houses, banks, offices, etc., will be made of our glorious redwood.

Now, Mr. Editor, I have given you *jack-plane* facts and hints, I have no wish to be positive nor arbitrary; there are many others, if asked, will add their testimony to the many virtues of our glorious redwood; and if any should have a doubt or a fear upon the question, let him or her come to 213 Mission Street, and judge for themselves. I will also *give* the frugal, doubting tourist from the East, a piece at any time, that he may look upon and admire, free *gratis*, and own up that we here are the most blessed and fortunate people upon earth, and first in all—gold, silver, wheat, and lumber.

Some little time ago I was showing a gentleman and lady from the vicinity of Buffalo, New York, some specimens of the beautiful wood, when he said, "Really, friend, taking your climate, your minerals, your fruit, vegetables and cereals, and this really wonderful wood, I must own and regret that the Pilgrim Fathers landed upon the wrong side of the continent."—*Wood and Iron.*

A New California Industry—Inyo Dolomite Marble.

MILL AND QUARRIES, 1887.

AMONG the many evidences of the great natural wealth of California, but few have attracted more attention than the splendid exhibition, in the late Mechanics' Fair, of the marble extracted from the quarries in Inyo County, Cal. And in introducing a new article of commerce, it may be expected, and it is but right and proper, that its claims to superiority should be made known, and wherein it differs from similar material in the market.

The great objection to marble is the tendency to change and decay when exposed to the atmosphere, losing every attraction, and in a few years well-nigh destroyed, which is the main cause, no doubt, of so much Scotch granite being imported into this country for our cemeteries.

In offering you our Inyo Dolomite Marble, we offer you a material that will stand the test of time—equal if not better than granite, which, geology says, "is the most durable stone of primary formation"—for this marble is less affected by the carbonic acid and other gases in the atmosphere than even granite. Italian and Vermont marble are composed of lime and carbonic acid, with some silica, and the gases in the atmosphere acting on the marble, set the carbonic acid free, which destroys the marble. The Inyo Dolomite Marble is composed of carbonate of lime and carbonate of magnesia, and, therefore, these gases have comparatively no injurious effect. The juice of the citrus fruits and the acid in wine will destroy the polish on ordinary marble, but will not damage our Dolomite Marble. This liability or certainty of ordinary marbles receiving injury from causes enumerated, and becoming an offense to people of nice taste, where a blemish or defect would destroy their value in an important sense, has changed marble for wood, as in case of mantels and grate surroundings, where wood cannot be said to be really appropriate or in good keeping, and robbed even fine furniture, to some considerable extent, of a most fit and ornamental covering, which, we believe, will begin to be re-instated in both cases, when it is known there is a marble called "The Inyo Dolomite," that will keep its deep and charming polish and rich luster without blemish, against all these well-known causes. And we believe, in view of all these tests, especially the effect our atmosphere has on imported marbles, as seen in our cemeteries, that the *native stone* should be altogether preferred. But so far as climatic influences may have to do with crystallization—though not an accepted scientific theory—we believe if Italian skies are anywhere surpassed in softness and beauty, and in perpetual clearness of atmosphere, it is around that wonderful sheet of water called Owen's Lake. And one thing we can say *and prove*, that no marble was ever found under Italian skies, or in Afric formation, having a more perfect, a finer and clearer crystallization, than this *to-be-famous* Inyo Dolomite Marble, now exposed in solid layers and in place at the base of the old Inyos, near the head of that body of mineral water. But they say it is harder to work. True, it is more solid and compact, but then you have something enduring which will not deteriorate. It is harder to make a knife of steel than of iron, but who wants an iron knife? The difference in labor is trifling, compared to the difference in real enduring worth. Another thing is important: Our marble is free from flint, which cannot be said of the Vermont and Italian; and it will be shown to dealers and consumers that the difference in cost of working, even though trifling, will not be figured to their disadvantage.

A comparative test of the pressure or weight required on fair samples (as believed) of the Vermont, Italian, and Inyo marbles, to crush or destroy the grains, was recently made by Mr. Emmet Rixford, a very intelligent student in the senior class of the University of California, under the supervision of Professor Hesse, with results as follows:—

Vermont.....	an inch cube crushed at	6,000 lbs.	pressure.
Italian.....	"	"	"	10,000 "
Inyo.....	"	"	"	26,900 "

This extraordinary solidity or compactness of the Inyo marble accounts for its not absorbing water to any appreciable extent in calculation; also accounts, in a great measure, for its resistance of atmospheric influences, and the action of even the powerful acids. Air and water are the great change workers. If this marble will not absorb water, and atmospheric agencies cannot enter it, or impinge upon it, actual use will undoubtedly confirm these positive scientific determinations, and, therefore, it will be conclusive to every thoughtful and logical mind that there is really *no experiment* in bringing this marble into immediate use.

If the ancient pride in fine marbles and its ideal and architectural uses should be revived, Inyo Marble Quarries can supply the demand. Dealers and consumers who are loyal to the best interests of the State, will at least examine our marble, and will not be deterred by prejudicial remarks from any quarter; that is all we ask, which we are fully confident will result in business, and if this State enterprise is encouraged on its *real merit*, it should, ere long, save a million a year to our commonwealth, that must otherwise go out of the State to pay for an imported article of no finer appearance, to say the least, and as to durability and permanent beauty, bearing no comparison to our own Inyo marble.

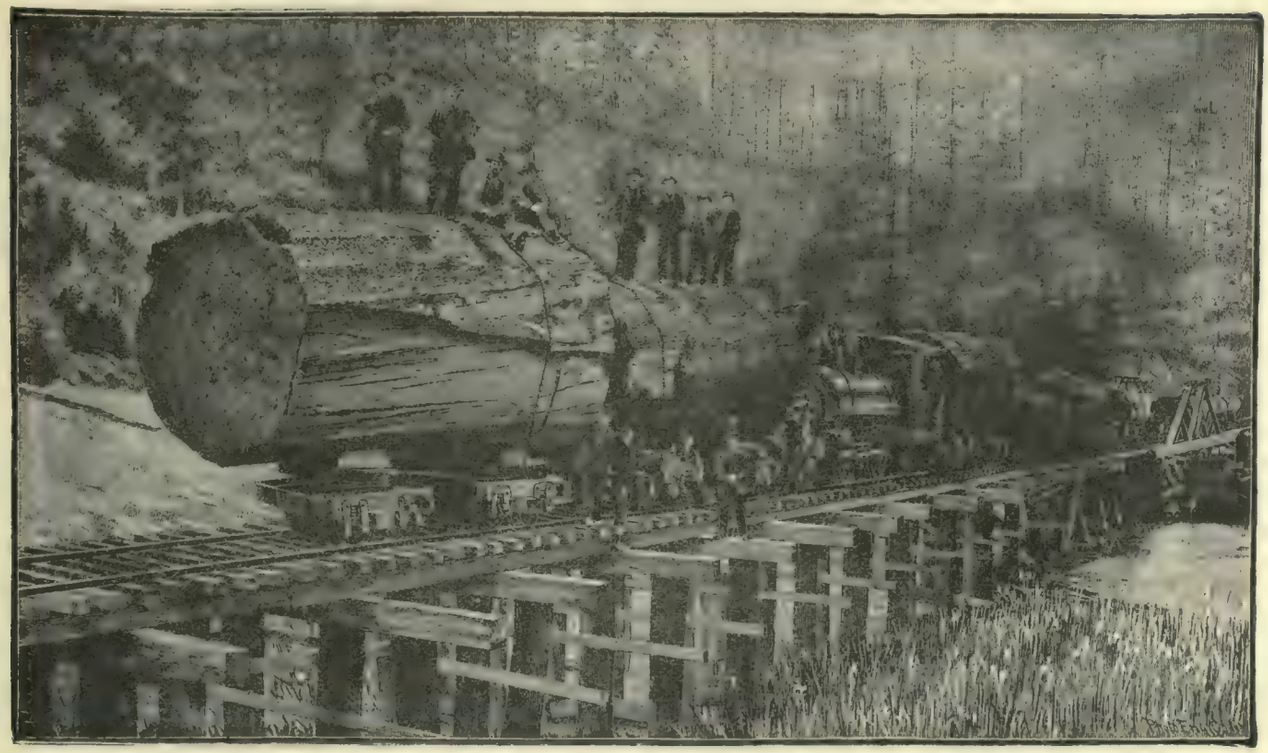
We do not enter the field to provoke competition; we come before the public with a valuable stone, taken from our own mountain-side. We ask no favor beyond its real merit, as compared with similar outside products. We simply ask your patronage, to enable us to open up a great treasure-house of our State, which has been too long locked up. And with your encouragement and patronage, *this California enterprise* can be made as great a public benefactor to the State, and secure as important results as have ever been secured to any State or people by the production of a similar material or article of commerce in any part of the world.

THE INYO MARBLE COMPANY OF CALIFORNIA.

Outside Paints.

VARIOUS opinions are expressed by members of the trade as to the use of linseed oil and zinc in outside paints. Those who favor the mixture of zinc with lead claim that when zinc is thus blended, its characteristics of drying hard, lacking body and having a tendency to chip, are not apparent in such paint. Zinc has certainly the quality of being most free from acid, and acid, as all are aware, saponifies oil, on the presence of which depends the vitality of paint. A Mobile painter who mostly uses lead and oil for outside work makes it a point to get only the best lead and ripest oil, but it will not stand in that climate more than three years except when used for repainting, when it lasts somewhat longer. Some painters use equal parts of white lead and zinc. A painter who aims mainly at durability says that he primes with pure lead, and top-coats with two parts of lead and one part American zinc. Another painter makes a still more free use of zinc, using a mixture of two-thirds zinc and one part lead to heighten weather-proof qualities; this advantage, in his view, offsetting the lesser opacity, and less covering quality of zinc as compared with lead. A Southern painter writes in favor of a mixture of one-third zinc and two-thirds white lead. He has also used with satisfaction for outside work a paint made up of one-half zinc and one-half whiting. A long-experienced painter expresses a preference for pure white lead and oil, and deprecates the mixture of zinc and lead. He uses boiled oil, and submits the following formula, which he frequently carries out: First coat of pure lead and boiled oil; second coat of lead with half-boiled oil and turps; third coat lead and boiled oil. —*Sel.*

A FINE stick of timber was brought down to Seattle, W. T., the other day to be made into a mast. The piece of timber is 86 feet long and will be 30 inches in diameter at the deck, which is 20 feet from the base; 17 inches will be the diameter at the smaller end. It is without a knot or blemish and contains 5,504 feet. The stock cost $15 a thousand at the camp and will be worth $175 when it is ready for the vessel.



Redwood Logging in California.

Redwood and Its Future.

THE operations of W. Cutten, who has gone East as a representative of the redwood lumber companies of Humboldt, Mendocino and Siskiyou, are, of course, of interest; but it may be questioned whether his object and the object of his constituents are well considered. He proposes to place on the Eastern market redwood in large quantities and at low prices, so as to tempt people to build houses of it instead of pine or hardwood. We do not believe California can spare redwood for any such purpose as that.

It must be remembered that the area occupied by the Sequoia sempervirens, or true redwood, is limited. It is found in groves of moderate extent in Santa Cruz and San Mateo Counties; it is fairly abundant in Mendocino and Humboldt Counties; there are groves of it in Siskiyou and Trinity, and it is found to some extent further north. But for commercial purposes, it may be said to be found exclusively in Mendocino and Humboldt. The redwood that goes to market from forests outside of these counties cuts no figure in the lumber market. Now, large as these counties look on the map, their five million acres are a very small tract indeed, if they are expected to furnish much of the building timber for the Eastern States. It would not take long to exhaust them, and, as is known, though young shoots do spring from the stumps of redwood trees which have been cut down, their growth is so slow that the tree may be practically said not to reproduce itself.

California cannot certainly afford to supply the Eastern States with redwood to build houses at anything like present prices. In a very little while our whole output will be needed for finishing work, decorations, furniture and other superior uses. Redwood is destined to take the place to a considerable extent of mahogany, black walnut, bird's-eye maple, cherry and oak. It is as handsome as any of these, takes a fine polish, is durable and shrinks less than any other soft wood. Ever since rosewood went out of use in consequence of the extinction of the supply, house decorators have been at their wit's end to find a substitute, and they have been driven to fall back on mahogany, which is growing scarcer year by year in consequence of the increased demand. Black walnut can never be made "dressy;" the cherry and the bird's-eye maple do not yield large planks; oak looks baronial, but is somber for any room except a dining-room. Redwood is suited for any kind of decoration. It makes fine furniture, and for mantels and wainscots it is equal to the handsomest woods of Australia, which are so scarce and so dear. It is a mere question of time when the East and Europe will realize its possibilities, and then it will sell not by the thousand feet, like pine, but by the ton, like mahogany.

In the old houses of the merchant princes of New York, built in the last century, you will still see dining-rooms of solid mahogany. The table is a solid slab of mahogany, with massive mahogany legs; the chairs are mahogany; the sideboard is the same, and even the massive folding-doors, which connect with the library, and the great door from the staircase, are of solid mahogany, worth almost its weight in silver. There was no veneer in those days. Furniture dealers are appalled when they witness such extravagance. But the furniture-maker of the future, when he comes here to pick up a few tons of redwood to complete the decorations of the drawing-room of some Eastern palace, will be far more amazed when he perceives that there was a time here when we built our houses and our stables of redwood, and even paved our sidewalks with the precious wood.

Grates, Mantelpieces, Tiling, etc., etc.

THE EXHIBIT OF W. W. MONTAGUE & CO.

THE house of W. W. Montague & Co., Market Street, had without doubt the finest exhibition at the fair. This was on the gallery over the entrance, and occupied quite a large space. It consisted of the latest and most beautiful designs in grates and mantelpieces, with the usual accessories in very handsomely wrought brass, etc. Of these there were a large number exhibited, all differing in design, but all strictly original, and so much the more attractive on this account. In tiling there was an equally good showing, the patterns in this being very unique. The whole exhibit was brilliantly lighted up, and gazing at it one at once realized the fact that it was an art exhibit. Of course to make such an exhibit the house of W. W. Montague & Co. possessed the best facilities. It can take what is required from its stock and never miss them. Each piece shown, however, was representative of a beautiful idea skillfully wrought, and it is therefore not to be wondered at that the display excited far more than ordinary attention. Notwithstanding the beauty of the articles, they are placed reasonably in price, and this is certainly an added merit. This house, in fact, can sell reasonably, it sells so largely, and its expenses are so moderate proportionately. It certainly to-day, in the above, as in its other lines, stoves, tinware, etc., is recognized as the leading house of San Francisco and the coast. In connection with it the following sketch will prove interesting:

This house was founded just seven years after the year of the Argonauts, 1849. The city differed widely then from to-day. Fourth and Market was about the limit one way, Stockton the other, while North Beach was the fashionable quarter to a certain extent, although Rincon Hill disputed the sway. There

were many vacant lots, too, between the center and Fourth Street. Oakland was certainly not then the Athens of the Pacific, but a straggling, illy-built village, with which communication was uncertain. Steamer day was an important fact, and was looked for anxiously by merchants, for beyond the fact of letters and intelligence from the outside world, the news and invoices received often raised or lowered market rates. The Vigilantes, too, were engaged in summary reforms. Mining, of course, was the main industry. Credit from steamer day to steamer day was accounted a great accommodation, and so it was when we remember the unstable character of things. Men were always on the move, and not having usually any family, they went where chance called. In these unsettled times it was a risk to start a house, expenses were so enormous and salaries so high. Of course good prices were obtained, but still the high pressure of everything required business men to be of rare ability to hold out long, money and everything else being taken into consideration. Messrs. Locke and Montague were the original founders.

Mr. S. M. Locke dying in 1876, the name was changed to the present style. The old firm occupied the building Nos. 406 and 408 Battery Street. Proving too small for an increased trade, in 1863 a removal was made to Nos. 110, 112, and 114 Battery Street, where subsequently an additional frontage of 145 feet was added to the already large stores. The necessities of greatly enhanced trade compelled still another removal, and the firm had the handsome building Nos. 309 to 317 Market Street, erected especially for it, into which it moved in December, 1883. The new building is 90x137½ feet, six stories high, with a water and damp-proof basement, giving over 70,000 feet of floor surface, every inch of which is required in the various details of business. This great space is crowded with an enormous stock of goods, conveniently arranged, and embracing every known article in the many different lines. The firm manufactures many articles, all of which are noticeable for finish, durability, quality, and workmanship. In 1883 Montague & Co. received the grand prize medal of the Mechanics' Institute for their artistic and superior exhibition of mantels, tiles, and grates, and this was followed in after years by other medals. The growth of this firm is only, in fact, paralleled by the growth of the city and State. Just as population increased so did its business. It made a point of meeting the demand for necessaries by furnishing these of superior make and at reasonable charge. It has always been the friend of home industry, and in stoves and ranges made a great endeavor for a home industry, but the time for that had not come. The demand out here was too limited, and the expense was too great. Eastern houses fill a demand ten times greater, so, of course, could undersell. In fact, out here the demand would scarce pay for the patterns for a first-class store. If a firm like this, with channels of trade all over the coast, found difficulty, we may be very sure the time was too early for such an experiment. It now has the agency for the best Eastern articles, but stoves and ranges, however, embrace only one department of its stock. This includes tiling of all kinds, tin plate, sheet iron, iron pipe, house furnishing hardware, plain, Japanned, and stamped tinware, etc. Its standing naturally commends it to Eastern manufacturers of prominence, and they are anxious for it to accept their agencies. We have not a doubt it refuses many agencies. What it offers we may certainly conclude are standard. Its immense business now enables it to sell reasonably, and this it certainly does. The fact that it has such a business shows that it satisfies customers. By its reasonable expense, too, in proportion, not much has to be added to first cost of goods.

A great house is that of W. W. Montague & Co., with a trade as wide as the means of communication to and from this city will admit, extending north and south, far to the east, and across the ocean to the Pacific Islands, and to China and Japan.

The house certainly has unequaled facilities to offer, and has made strenuous efforts to promote home industry, handling, where it possibly could, our own manufactures. Its present position has been built up solely by enterprise, and the offering of really suitable and serviceable articles of every-day requirements at such prices as placed them within the reach of all. We cordially commend it to our many readers.

DARKENING ROOMS.—People should avoid completely excluding light for any length of time from rooms that have been finished in oil color, as the paint will then be apt to take a yellowish tinge.

Remaining numbers of this year given free to all new subscribers for 1888.

HILL'S

Patent Inside Sliding Window Blinds,

Are Adapted to any Style of Window,

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging Houses are Unexcelled.

They are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility to tear curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.

There is no sagging, banging, or getting out of order.

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require no hinges—all trimmings furnished with blinds—are made of all woods, finished or unfinished.

The Blind manufactured throughout the United States and Canada by the members of the HILL SLIDING BLIND ASSOCIATION, is the only sliding Blind ever put into practical and general use, or that has been adopted and used by the leading architects and builders, both East and West.

It is rapidly displacing the objectionable folding blind, also shades, which since they have ceased to be considered the fashion, are used principally in cheap dwellings and tenements.

The Hill Blind is the only sliding blind made of white cedar, and where the grooved slide can be used as the window stop, or placed on the pulley stile, similar to the ordinary stop—"the slide is only 2⅜ inches wide"—plenty of room can be obtained by setting the casing flush with the pulley stile, in light studded buildings. NOTE.—Any other sliding blind using the slide as the stop for the sash, is an infringement of our patents of February 26, 1884, and February 24, 1886, and anyone selling, using, of making such a blind will be prosecuted by the HILL SLIDING BLIND ASSOCIATION, as they are determined to stop the sale of several cheap and worthless imitations.

The Hill Sliding Screen, working the same as the blind, is the only screen covering one-half of the window, which will remain at any desired point, and which can be instantly removed, when not required, or to clean the windows.

Over eight thousand sets have been specified and put in, throughout the Pacific Coast, since April 1, 1885.

We refer to the following prominent architects of San Francisco, who have used or specified the Hill Blind and Screen; also hundreds of owners throughout the Pacific Coast:

Miller & Armitage, Pissis & Moore, H. D. Mitchell, John Marquis, John M. Curtis, Moore & Schultze, J. T. Kidd, J. H. Humphreys, T. J. Welsh, Jas. E. Wolfe, Townsend & Wyneken, Chas. J. Devlin, Geo. E. Voelkel, Copeland & Banks, M. Balczynski, Edw. R. Swain, Chas. V. Pierce, S. & J. C. Newsom, Wm. Mooser, Chas. Geddes, Macy & Jordan, H. T. Bestor, A. A. Bennett, Salfield & Hohlberg, A. J. Barnett, John J. Clark, G. V. Capelletti, P. R. Schmidt, M. P. Schetzel, Clinton Day.

HINDES & MURRAY,

Main Office and Factory, 411 Mission Street, Corner of Fremont.

Sole owners of the right to SELL and MANUFACTURE for the Pacific Coast, except Counties of San Diego, Los Angeles, San Bernardino, Santa Barbara, Kern, San Luis Obispo, and Ventura in California.

COUNTRY

BUILDING INTELLIGENCE

We earnestly desire the co-operation of country editors and mechanics generally to this department of our Journal. Forward us all the building news connected with your different localities. Architects should also notify us of "plans to figure on." No charge is made for such notices. Direct letters to office of this Journal, 240 Montgomery St.

Bakersfield.

O. Mattison will build a two-story brick building at a cost of about $12,000.

A large hotel is contemplated. Address Hirschfeld Bros. It will cost about $40,000.

Chico.

A number of prominent citizens have been canvassing the city for contributions to build a new hotel. The citizens are to raise $20,000 and donate a site for the building, and a gentleman from San Francisco will furnish $80,000 and proceed with the building. Fifteen thousand dollars was raised yesterday. William Earll, F. W. Burnham, F. C. Lusk, and Mayor Barnard are the prime movers in the undertaking.

Los Angeles.

THE MAIN STREET HOTEL.—Proposals for the excavation of the lot on the corner of Tenth and Main Streets, where the mammoth hotel is to be built, will be opened and the contract will be let shortly afterward. Mr. Denker, of Hammel & Denker, is in the East studying the designs of the hotels there, and upon his return plans will be drawn for the hotel, and the construction will commence shortly after.

Lake Tahoe.

Architect M. J. Curtis and D. Kaiser, of Carson, are at Sugar Point, Lake Tahoe. Mr. Curtis has the contract to build the new hotel at that point for Captain Lapham, and Mr. Kaiser will be the landlord. The hotel will be 34x120 feet and three stories high; also there will be built this fall an annex, a saloon 24x36 and six five-room cottages. The whole to cost $35,000.

Oakland, Alameda, and Vicinity.

D. C. Scanlon is building three cottages on Hobart Street, to cost $2,000 each.

D. C. Scanlon is also building two cottages for Mrs. J. M. Jones, on Jones Street, to cost $1,800 each.

D. C. Scanlon is making $1,000 worth of improvements upon the place of J. T. Gardiner.

W. T. Veitch will shortly begin a $4,500 house for Mrs. Moore.

Scanlon & Gearn will shortly begin three cottages on Hobart Street, to cost $2,000 each.

J. C. Wilson, Councilman from the Second Ward, is building five cottages on Hobart Street, to cost $1,800 each.

The total cost of building in this quarter is $33,600.

THE SATHER BUILDING.

The contracts for the Sather building on Washington Street, adjoining the Wilson House, have been let. The Judson Manufacturing Company has received the contract for the iron work, at $725. Knight & Littlefield have the carpenter work, at $10,373. The Remillard Brick Company have the contract for the brick work, at $3,745. The total is $14,843. The Sather building is well under way.

OAKLAND BUILDINGS.

The Davis Block, on the corner of Washington and Eleventh Streets, is being pushed rapidly forward, and the walls of the first story are up. The framing of the first story has been put in and the cellar has been completed. The undressed stone facings are being put in on either side of the entrance to the upper stories, the whole making a very pretty combination.

It is understood that James de Fremery is having plans drawn for a four-story building on Washington Street.

Dr. J. M. Young is building two cottages on Park Avenue, near Hollis Street, to cost $1,000 each. Robert Jackson is the contractor.

Goodrich & Newlon, of Oakland, are drawing plans for a smelter, etc., for the Crittenden Smelting, Mining, and Milling Co., of Pima County, Arizona. Total cost, $69,000.

W. T. Veitch is refitting the stores 909 and 911 Broadway. George W. Henderson is doing the moving and the iron work. The cost will be $4,000.

EAST OAKLAND BUILDINGS.

A house is being built on Sixth Avenue, between East Fourteenth and East Fifteenth Streets.

F. A. Brown is building a cottage on Eighth Avenue, between East Fifteenth and East Sixteenth Streets, for W. C. Orcutt. The contract price is $2,060.

Charles J. Gaillard is building a cottage for W. G. Reese on East Twentieth Street, between Seventh and Eighth Avenues, to cost $1,550.

S. T. Higgins & Sons are building for Mrs. M. C. Littlejohns a cottage on Tenth Avenue between East Twenty-fourth and East Twenty-fifth Streets, to cost $1,671.

The East Oakland Methodists intend building a church on Eighth Avenue and Seventeenth Street soon.

OUTSIDE THE CITY.

P. S Glasford is having a $1,700 cottage built on the Hillegas Tract, Berkeley, by C. R. Lord.

J. S. Greenleaf is having a house built by Woodhouse & Sandy at Klinknerville, to cost $2,300.

Knowles & Wetmore will build for L. Georges a house at Fruit Vale, to cost $2,700. J. J. & T. D. Newsom are the architects.

J. B. Cogswell has agreed to erect a house for Mrs. H. Gross in Berkeley to cost $3,100. Percy & Hamilton are the architects.

Goodrich & Newlon have received orders from M. B. Strelinger to advertise for bids on his house to be erected in Berkeley.

A. H. Broad has agreed to do the carpenter work on a building for A. Carlisle, on the corner of Vine and Spring Streets, Berkeley. The contract price is $2,720.

Petaluma.

A planing mill is being erected on the corner of C and Second Streets.

Portland, Or.

A. J. Cooper, a Chicago capitalist, offers to build a $700,000 hotel if the citizens give him $250,000.

Permits have been granted for construction of a one-story frame dwelling on the corner of Sixteenth and M Streets, for J. Connor, to cost $2,200; two one-story frame dwellings on the corner of Lownsdale and Clay Streets for Mrs. Rice, to cost $2,200, and a three-story frame dwelling on the corner of Tenth and Mill Streets, for R. P. Earhart, to cost $8,500.

Work will be commenced in a few days on the building of the cyclorama of the Battle of Gettysburg. It will be located on the corner of Third and Pine Streets.

W. S. Ladd has started the subscription for the new hotel project with $25,000.

A three-story brick addition is to be made at once to the rear of the *Oregonian* office building, and another story added to the main structure. The cost will be about $10,000.

Charles H. Dodd has ordered the construction of a four-story brick block, 75x80 feet, on the southeast corner of Front and A Streets, to cost $60,000.

A two-story frame dwelling is to be built on D Street, between Twelfth and Thirteenth, for P. W. Gillette, to cost $2,000.

Chas. H. Dodd has been granted a permit to build a four-story brick block on the corner of Front and A Streets, to cost $75,000.

A Methodist Church is soon to be built at Burns, to cost about $1,200.

Baker City has voted to issue $30,000 in bonds to build a new school-house.

Riverside.

A. W. Boggs has secured the contract for the foundations of the Rubidoux Hotel. J.

C. Pelton was the successful competitor for preparing plans, etc.

Sacramento.

L Street, bet. Eighth and Ninth. Two-story and basement residence. Owner, John Sheeren; architect, N. D. Goodell; contractors, Bohn Brothers. Cost, $4,000.

G Street, bet. Ninth and Tenth, two-story and basement residence. Owner, Mrs. Ellen Manning; architect, N. D. Goodell; contractor, B. F. Bell. Cost, $3, 00.

Capital Hotel, cor. K and Seventeenth Streets, alterations and additions. Owners, Blessing & Guthrie; architect, N. D. Goodell; contractors, Carle & Croly. Cost, $9,000.

J Street, bet. Ninth and Tenth, alterations and improvements. Owner, L. Elkus; architect, N. D. Goodell; contractors, Bohn Brothers. Cost, $1,200.

J Street, cor. Seventh, improvements and additions. Owner, T. M. Lindley; architect, N. D. Goodell; contractor, W. M. Reese. Cost, $10,000.

San Jose.

There will doubtless be more building done this fall than at any previous period in the history of San Jose. Among those who propose to erect residence buildings at once, are the following: Eugene Rosenthal, a handsome residence on his lot on Julian Street, between Third and Fourth. G. R. Jones, of Montreal, Canada, residence on Union Avenue, at a cost of $8,000. H. A. Hughes, lately from the East, a neat cottage on North Sixth Street, at a cost of $4,000.

C. D. Smith, of the firm of Kaufman, Smith & Hensley, has recently purchased a very desirable lot on Sixth Street, and has contracted for the erection of a fine dwelling.

G. N. Hensley, of the same firm, residence on Sixth Street.

W. S. Kaufman, the third member of the firm, fine dwelling on Third Street.

Theodore Lenzen is supervising the construction of a new residence on the Quinn Ranch, one on the Parr Ranch, one in Alviso, and a three-story hotel and an Odd Fellows' hall at Salinas. P. E. Bussell is completing the plans for a cottage on Lenzen Avenue for X. E. Burns, and also a plan for a $30,000 residence for an Eastern gentleman who recently purchased in this city.

Three cottages will soon be erected on the Lendrum Tract, in East San Jose, by William Winter, a San Francisco capitalist. Other San Francisco men propose to build here soon.

F. Brassy and Henry Ahlers have let to A. Kelsey, the well-known builder, a contract for the construction of two handsome residence houses at the corner of McLaughlin and Lick Avenues, in the Brassy & Ahlers addition to East San Jose, the price being $7,000 each.

Messrs. Brassy & Ahlers will build also another house close to the others, to cost $4,500, and the contract for still another will be let in a few days, making four handsome houses in all. San Jose is to be congratulated upon having two such energetic and enterprising men.

Contracts Let.—Contracts have been let by Architect G. W. Page for the completion of the fourth story of East Hall of the University of the Pacific. A. J. McIlvain has the contract for $737.

A contract by the same architect has been made with J. J. McDaniels, for changes and additions to the building of the Home for Feeble-minded Children, for $2,700.

A third contract has been let to W. J. Wolcott for excavating and laying the foundation for the Conservatory of Music Chapel of the University of the Pacific for $3,227.

The following bids for building the new City Hall were opened:—

J. D. Stewart, common bricks, $112,654; pressed, $117,350; sandstone trimming, extra.

P. R. Wells, common, $112,000; pressed, $117,000.

Thos. Livingstone, common, $112,000; pressed, $117,500.

A. J. McIlvain, common, $114,500; pressed, $117,000.

Chas. Turel, San Francisco Co., common, $115,999; pressed, $119,999.

Albert Washburn, San Francisco, common, $116,881; pressed, $121,881.

Thos. Flynn offered to do the sandstone work if called for, at $7,825.

The contract was awarded to P. R. Wells and his bonds fixed at 25 per cent of the amount of his bid.

The total cost of the New City Hall will be as follows:—

F. Altman, cast-iron work	$1,880 00
F. Kuchenbeiser, wrought-iron	5,890 00
Combs, Blanchard & O'Neil, granite	5,180 00
Contracts already let	$ 12,950 00
P. R. Wells, brick and lumber work	117,000 00
Vaults, etc	3,000 00
Heaters, four	2,000 00
Electric Wires	250 00
Elevator	250 00
Total	$135,450 00
Architect's services, 3 per cent	4,062 60
Sum total	$139,512 60

Mrs. Mabury will build a $10,000 dwelling. P. R. Wells, contractor; Theo. Lenzen, architect.

N. D'Oyly is building a $12,000 dwelling from plans prepared by his architect, Theo. Lenzen. Thomas Livingston is contractor.

Theo. Lenzen has prepared plans for twelve brick buildings for New Chinatown. E. Base is contractor; $6,000 will cover the cost.

Six miles from town E. N. Parr will build a $5,000 dwelling. Theo. Lenzen is his architect; F. Davis, contractor.

One mile from town R. Wiltz is building a $4,500 dwelling. Theo. Lenzen, architect; Nickelson, contractor.

C. Lefranc, seven miles from town, is making large additions to his wine cellar. Theo. Lenzen, architect; G. E. McDougall, contractor.

San Rafael.

San Rafael Hotel. Three-story frame. Owner, San Rafael Hotel Company; architects, Curlett & Cuthbertson; contractor, Plereighton. Cost, $80,000.

Turlock.

San Strauss, of Turlock, has just purchased a piece of property near that town, and will immediately commence the construction of a $4,000 residence. James E. Wolfe, of San Francisco, is his architect.

Winters.

E. J. Englehardt is erecting a two-story frame to cost about $6,000. A. Ritchie is the architect and builder.

Judge Wm. Sims is having a two-story residence built. Gilbert & Son, of Woodland, are architects; R. B. Nissen, of Capay, contractor. Cost, $4,000.

T. D. Ball is superintending repairs on Mrs. D. Hemenway's residence.

W. J. Pleasants (seven miles from town) is spending about $2,500 in improvements.

A large force of men are grading on the Winters and Ukiah Railroad.

Most of the business firms of the town are having artificial stone sidewalks laid.

Miscellaneous.

It is estimated that it will require 11,000,000 feet of lumber to erect the buildings already under contract at San Carlos City, Lower California.

The stone foundation for the new schoolhouse at Rutherford has been laid, and contracts for the carpenter work will soon be open.

The rock foundation for the new Catholic school in St. Helena is completed, and work begun on the frame work.

Bassett Brothers, contractors and builders, have commenced work on the frame work of the Catholic College.

J. E. Whitson, of Selma, will soon let the contract for the building of his $30,000 hotel in that town.

The new County Hospital in Fresno City will cost $12,000. J. W. Bones is preparing plans and specifications.

J. H. Hamilton, of Fresno, is building a cottage on I Street, north of El Dorado Street.

Contractor Morrison, of Tacoma, was recently awarded the contract for building the addition to the Court House. The bid was $971.

The contract of building the superstructure of the Methodist Church in Seattle, and finishing up the basement, was let recently to Moses Keezer for $15,000.

The S. P. R. R. Co. are making arrangements to build a large, commodious new depot at Sumner. The old one will be used exclusively for freight.

THE LOS GUILUCOS HOTEL.

Thomas J. Ludwig states that he has closed the contract for the erection of a $11,000 hotel at the town site of Los Guilucos, and that work will soon be commenced. Teams have commenced hauling brick and lumber for the foundations.

ANAHEIM'S HOTEL—CONTRACTOR SCHINDLER SOON TO BEGIN WORK.

The contract for the cement sidewalks on the tract has been awarded to the Los Angeles Paving Company, of which Mr. E. A. Saxton, formerly of Anaheim, is manager. They expect to put a number of men at work shortly. Mr. Charles Schindler, who has the contract for the brick work, has received the foundation plans, and will start his men at work very soon. Directors Goldthwaite and Kroeger have the superintendence of the work of caring for the tract, grading streets, etc., and they are getting ready to make some wonderful improvements in the property.

PLANS APPROVED.

A meeting was held recently of the State Board of Examiners, Governor Waterman presiding, and Trustees Gally and Cunning-

ham being present. The plans and specifications for the erection of three new wards at the hospital, and for furnishing the building, were submitted to the Board of Examiners by Messrs. Cunningham and Gally, and unanimously approved by the Board.

WORK ON THE SAN JOSE NEW CITY HALL.

The work on the New City Hall will be commenced at once. Sunday a cargo of cement arrived in San Francisco, and the amount necessary for the building here has been obtained by Daunes & Van Doren. The sewers will be laid first and then the foundations will be pushed forward. The sub-contractors are as follows: W. J. Wolcott, brick work; L. C. W. Otto, artificial stone and cement work; W. W. Montague, tiling; M. Lenzen, painting; W. P. Dougherty, mill work; John Stock & Sons, plumbing and tinning.

The contracts for the erection of a depot at Carlsbad and Encinitas were let, recently, by the California Southern Railroad Company, to F. M. Johnson, the contractor of the Barstow depot.

Architect Pugh, of Salem, is now engaged in making preliminary drawings of the proposed new Court House of Benton County. The building will cost $55,000, and will be in the Ionic style of architecture, and be of brick and stone. It will be built in 1888.

Fred E. Sander is building a handsome residence on Eighth Street in Seattle, to cost $12,000.

The Donahue Road will erect a new station in Coleman's Magnolia Tract, near Grant Avenue, San Rafael.

Architect Theo. Lenzen is in Salinas superintending Jeffery's new hotel. It is a three-story brick building, and will cost $20,000.

The Odd Fellows are erecting a $12,000 hall in Salinas. Theo. Lenzen has prepared the plans.

Mrs. Tilden is having built a $7,000 dwelling in Alviso. W. S. Boyles is the contractor, Theo. Lenzen, architect.

Near Dixon, Solano County, Cal., two-story and basement residence. Owner, J. F. Brown; architect, N. D. Goodell; contractor, B. F. Bell. Cost, $8,000.

SAN FRANCISCO BUILDING NEWS.

A

Army, nr. Guerrero. One-story frame.
O. and B.—Comerford.
$1,400.

B

Brannan, nr. Fourth. Additions.
$6,000.

Broadway, cor. Dupont. Three-story frame.
O.—V. Meninsini.
A.—Cappelleti.
C.—J. G. Adams.
$10,000.

Broderick, cor. Sacramento. One-story frame.
$1,000.

Bush, cor. Scott. Two two-story frames.
O.—D. Lohson.
C. and B.—W. Bluns.
$9,000.

C

California, nr. Laguna. Additions.
O.—T. Whitely.
A.—Huerne & Everett.
C.—McCready Bros.
$1,200.

California, nr. Front. Additions to brick building.
O.—S. L. Jones & Co.
A.—Macy & Jordan.
Carp.—Bateman Bros.
Mason—Dunbar & Morrell.
$17,000.

California, cor. Devisadero. Two-story frame.
O.—Geo. Hinkle.
Day work.
$6,500.

Capp, bet. Twenty-fifth and Twenty-sixth. One-story frame.
O.—Doyle.
C.—Sullivan.
$1,700.

Capp, nr. Twenty-fifth. Additions.
$1,000.

California, corner Devisadero. Two-story frame.
O.—George Hinkle.
Day work.
$6,500.

Clay, cor Laguna. Two-story frame, basement and attic.
O.—Irving Scott.
A.—Matthews & Son.
C.—Littlefield.
$10,000.

Columbia, bet. Twenty-fourth and Twenty-fifth. St. Peter's Convent.
O.—Sisters of Mercy.
A.—J. J. Clark.
C.—Degan & Orford.
$5,000.

D

Davis, cor Vallejo. One-story frame.
O.—Coos Bay Coal Co.
$1,200.

Davis, cor Vallejo. Coal Bunker.
O.—Coos Bay Coal and Navigation Co.
C.—San Francisco Bridge Co.
$15,000.

Dolores, nr. Twenty-sixth. One-story frame.
O. and B.—R. Bergfeld.
$2,000.

Dupont, nr. Sacramento. Additions.
$500.

E

Eddy, cor. Van Ness ave. Two-story frame, basement and attic.
O.—Frattinger.
A.—R. R. Schmidt.
C.—P. Griffin.
$11,000.

Eighth Avenue, nr. Point Lobos Road. Star of the Sea Church.
O.—Father McGinty.
A.—Charles Devlin.
C.—J. Blake.
$10,000.

Eighteenth, nr. Douglass; one-story frame.
O.—W. Richter.
C.—A. Discher.
$1,500.

Eighteenth, nr. Castro. One-story frame.
O.—F. Reusche.
A.—P. R. Schmidt.
C.—F. Elam.
$2,800.

F

Fillmore, cor. Sacramento. Alterations.
O.—Schroeder & Bohman.
Day work.
$1,500.

Fourteenth, nr. Belcher. One-story frame.
$1,200.

G

Garden, nr Harrison. Additions.
$1,000.

Gilbert, nr. Bryant. Additions.
$700.

Golden Gate Avenue, cor Octavia. Two two-story frames.
O.—Wm. John.
A.—John & Zimmerman.
C.—B. Dreyer.
$7,000.

Guerrero, nr Twenty-sixth. Two-story frame.
$4,500.

Grove, bet Gough and Octavia. Two-story frame.
O.—G. Ehrman.
A.—W. H. Armitage.
C.—L. Weisman.
$6,500.

H

Howard Court, nr. Fourth. Repairs.
$1,200.

Howard, nr. Thirteenth. Two-story frame.
O.—A. Johnson.
A.—John & Zimmerman.
C.—Schutt & Krecker.
$3,200.

I

Industrial School. Frame building for barn.
C.—H. Simmons.
$2,500.

Iowa, nr. Ropewalk. One-story frame.
O.—L. Meyer.
$1,500.

Iowa, nr. Solano. Two-story frame.
O.—Annie Hook.
C.—C. E. Dunshee.
$3,500.

J

Jackson, bet. Montgomery and Sansome. Alterations.
O.—D. Ghirardelli.
A.—W. Mosser.
C.—J. W. Wessinger.
$4,000.

Jackson, cor. Mason. Alterations.
O.—E. Frank.
A.—Salfield & Kohlberg.
C.—L. Weisman.
$7,000.

L

Laguna, bet Clay and Sacramento. Two-story basement and attic frame.
O.—Earls.
A.—Matthews.
C.—Littlefield.
$10,000.

Larkin, nr. Chestnut. Frame building.
O.—W. Perry.
A.—G. A. Bordwell.
C.—B. F. Ellis.
$1,500.

M

Minnesota, cor. Solano. Three-story frame.
O.—J. Mooney.
A.—Townsend & Wyneken.
C.—C. E. Dunshee.
$4,500.

Mission, nr. Ninth. Repairs.
O.—W. A. L. Miller.
$500.

Mississippi, nr. Solano. One story frame.
O.—Burglas.
C.—Meade.
$1,000.

Minna, nr. Fourteenth. Frame dwelling.
O.—J. Warren.
C.—G. Houston.
$1,600.

Market, bet. Fourth and Fifth. Alterations of old St. Ignatius Church into theater building.
$2,500.

Montgomery, nr California. Repairs.
$1,200.

N

Natoma, nr. Fifth. Three-story brick.
O.—J. F. Boyd.
A.—McDougall & Son.
C.—A. G. Fitzpatrick.
$45,000.

P

Pacific Avenue, nr. Fillmore. Two-story frame.
O.—Mrs. M. E. Green.
A.—Percy & Hamilton.
C.—Gray & Stover.
$8,000.

Pacific Avenue, nr. Gough. Five two-story frames.
O.—J. J. Hall.
A.—S. & J. C. Newsom.
C.—Knowles & Wetmore.
$15,000.

Page, bet. Gough and Octavia. Two-story frame.
O.—H. Dickerson.
C. and A.—J. P. Chadwick.
$4,000.

Pierce, nr. Haight. Two-story frame.
O.—M. A. Eddleman.
C.—J. Rountree.
$4,500.

Protrero Avenue, bet. Twentieth and Twenty-first. One-story frame.
O.—A. Pringle.
C.—C. O. Smith.
$2,000.

Powell, nr. Greenwich. Additions.
O.—B. Higgins.
A.—B. J. Clinch.
C.—T. O'Donnell.
$2,500.

Q

Quincy Place, nr. California. One-story brick.
O.—E. Garnier.
C.—Schoenmacher.
$2,200.

S

Sutter, nr. Taylor. Additions in rear.
$1,000.

San Jose Avenue, nr. Twenty-seventh. Two-story frame.
O. and B.—J. Comerford.
$3,000.

Sansome, nr. Sacramento. Additions.
O.—Palmer & Rey.
A.—Macy & Jordan.
C.—J. E. Kelly.
$6,000.

Sacramento, bet. Laguna and Buchannan. Two-story frame, basement and attic.
O.—R. C. Chambers.
A.—Matthews & Son.
C.—Littlefield.
$10,000.

Sanchez, nr. Seventeenth. Two-story frame.
O.—J. G. Hill.
C.—J. C. Gillespie.
$2,500.

Sierra, nr. Kentucky. One-story frame.
O. and B.—Keenan.
$1.000.

Sixth, nr. Harrison. Two one-story frames.
O.—J. Holjes.
C.—Munster.
$3,000.

Solano, nr. Iowa. Two-story frame.
O.—Annie Hook.
C.—C. E. Dunshee.
$3,500.

T

Tennessee, nr. Solano. Five one-story frames.
O.—Reis.
C.—R. O. Davis.
$5,000.

Tennessee. Additions to St. Thomas' Church.
$1,000.

Thirtieth, nr. Noe. Two-story frame.
O.—Pope.
$3,500.

Treat Avenue, nr. Twenty-second Frame building.
O.—Oliver Madson.
A.—M. J. Welsh.
C.—Chisholm.
$4,500.

Twenty-sixth, nr. Dolores. One-story frame.
O. and B.—J. I. Comerford.
$1,600.

U

Union, nr. Franklin. Frame school.
O.—City of San Francisco.
A.—T. J. Welsh.
C—P. B. McKay.
$18,440.

V

Vallejo, nr. Mason. Two-story frame.
O. and B.—P. J. Hanson.
$3,600.

W

Webster, cor. Clay. Additions.
O.—Veseria.
A.—C. Kenitzer.
C.—C. H. Rupell.
$1,000.

Washington, bet. Gough and Octavia. Two-story frame.
O.—P. G. Sabatie.
A.—Pississ & Moore.
C.—Jas. Geary.
$6,500.

Y

York, bet. Twenty-fifth and Twenty-sixth. Five one-story frames.
O.—Dr. C. C. O'Donnell.
Day work.
$4,000.

Provincial Royal Jubilee Hospital.

TO ARCHITECTS.

Designs, Plans and Specifications are invited for the above building, in accordance with memorandum of particulars, copies of which, together with contour plans of the site, may be obtained on application to the undersigned. A premium of $800 will be paid for whichever designs and plans, if any, may be adopted. Such designs, plans and specifications to become the property of the Provincial Jubilee Royal Hospital Building Committee.

Plans for this building to be addressed, in sealed envelope, to the undersigned, and to be handed to him by or before noon of the 7th of December next.

WILLIAM CHUDLEY, Hon. Secretary,
Sept. 13, 1887. Wharf St., Victoria.

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Pine, Rough, per M feet	$22 50
Pine, Rough, No. 2	18 50
Pine, Rough, 40 to 50 feet lengths	23 50
Pine, Rough, 50 to 60 feet lengths	24 50
Pine, Rough, 60 to 70 feet lengths	25 50
Pine, Selected	26 50
Pine, Clear	33 50
Pine, Fire Wood	10 00
T. & G. Flooring, 1x6	35 00
T. & G. Flooring, 1¼x6, 1x4, 1¼x4, and narrower	40 00
T. & G. Flooring, No. 2	29 50
Stepping	45 00
Stepping, No. 2	32 50
Redwood, Rough	22 50
Redwood, Rough, No. 2	18 50
Redwood, Surfaced	37 50
Redwood, T. & G. 6 in., 12 feet and over	34 00
Redwood, T. & G. 6 in., 7 to 11 feet	27 00
Redwood, T. & G. 6 in., under 7 feet	24 00
Redwood, Rustic	37 50
Redwood, Rustic, No. 2	32 50
Redwood, T. & G. Beaded, 12 feet and over.	36 00
Redwood, T. & G. Beaded, 7 to 11 feet	27 00
Redwood, T. & G. Beaded, under 7 feet	24 00
Redwood, Siding, ½ in.	25 00
Pickets, Fancy	26 00
Pickets, Rough Pointed	19 50
Pickets, Rough Square	17 50
Shingles	2 25
Laths, 1¼	4 00
Laths, 1½	4 50
Furring, 1x2, per lineal foot	01
Battens, ½x3, per lineal foot	01

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Practical Draughting	1 00
Drawing for Cabinet Makers	1 50
Handrailing and Staircasing	1 50
Painter, Gilder, and Varnisher	1 50
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Steam Engine Catechism	1 00
Paper Hanger's Companion	1 25
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Amateur Mechanic's Workshop	$3 00
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How To Paint	1 00
Practical Geometry	1 00
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Lien Law	50
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TESTIMONIALS.

Dr. Loryea's New Hamman, 218 Post Street.

San Francisco, Dec. 9, 1886.

MR. P. ABRAHAMSON—*Dear Sir:* The subject of ventilation without draughts has been my study for years in the various Hammans that I have built throughout the United States, in order to secure a perfect "Cool Room," which is the great desideratum to be attained in a Turkish Bath-House. Through your invention of the **Window and Door Ventilator,** we have secured every "desideratum that was devoutly wished for," as I have practically tested its merits, and find it works perfectly satisfactory, and can safely recommend it to all who are in search of fresh air without draughts. Yours truly,

A. M. LORYEA, M. D.

San Francisco, Feb. 1, 1887.

PETER ABRAHAMSON, ESQ.—*Dear Sir:* The ventilators you put in my bedroom work to perfection; they keep the air fresh and cool. I would not be without them for double the cost. I can recommend them as the best and most perfect I have ever seen. Any further information will cheerfully be given by calling at 504 Ninth Street, San Francisco. Respectfully yours, PETER A. SMITH, Supt. Cal. Sugar Refinery.

Pioneer Woolen Factory.

San Francisco, Feb. 3, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* In answer to your question whether I find the Ventilators satisfactory, I am pleased to say that, after due trial, both at my house and my office, I find it works to my entire satisfaction, and can cheerfully recommend them to all who are in search of perfect ventilation, without draught. My business is such that I am considerably confined in-doors, so to the subject of ventilation I have given considerable thought, as my experience teaches me how essential it is that we should breathe the air pure and free as nature has provided. I would not be without it, and think it is an article indispensable to every household.

HERVEY PLATT, Supt. S. F. Pioneer Woolen Factory.

San Francisco, March 20, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* I have examined the action of your Window Ventilator in one of the rooms of my house, in which you have applied it; and I find that it produces a strong in-current and out-current at the same time, without making a perceptible draught. The current of air produced by it will keep the air of the room quite pure. It is to be recommended for simplicity and efficiency.

Yours truly, ALFRED W. PERRY, M. D.
(Dr. Perry is a member of the Board of Health.)

San Francisco, April 2, 1887.

MR. P. ABRAHAMSON, Patentee of the Abrahamson Ventilator—*Dear Sir:* I hereby acknowledge that I have had your Patent Ventilator placed in my Court Room Department No. 2, Old City Hall, and that I find it in every sense beneficial for the purposes intended.

JAMES LAWLER, Judge of Police Court No. 2.

Oakland, Cal., March 19, 1887.

MR. P. ABRAHAMSON, San Francisco—*Dear Sir:* After giving your Patent Ventilator a thorough test, I am thoroughly convinced that you have indeed made a most wonderful discovery in furnishing ventilation without creating a draught. I have been using two of them for several weeks and take pleasure in pronouncing them a perfect success in fact I so fully appreciate their usefulness that I should like to obtain from you the agency for this county. An early reply will oblige, Yours truly, E. F. DELGER.

Guardian Assurance Company of London.

San Francisco, April 16, 1887.

P. ABRAHAMSON, ESQ. *Dear Sir:* Since you placed two of your Ventilators in the windows of our office, corner of California and Sansome Streets, I have noticed a considerable improvement in the atmosphere of the room, and have not felt any draught from their use. Very truly yours,

WM. J. LANDERS, Gen. Agent.

CONGREGATION SHRRI ZEDECK.

San Francisco, September 26, 1887.

MR. P. ABRAHAMSON—*Dear Sir:* I take great pleasure in testifying in these lines that your patent Wall Ventilators put up in the new Synagogue of the above-named congregagation on N. E. corner Stockton and California Streets are all that you claim them to be, for, at the consecration of the Synagogue and on consequent holidays, the same was filled to its utmost capacity, and in addition all of the many gas lights were burning; still, everybody felt comfortable, owing to the current of fresh air caused by the ventilators.

I consider it, therefore, my duty to inform you of the successful trial they stood in the Synagogue, and promise you to recommend the same whenever I can.

Very respectfully yours,
SAMUEL POLACK, *Pres.*

United States Post Office.

Oakland, Cal., May 7, 1887.

E. F. DELGER, ESQ., Oakland.—*Dear Sir:* We take pleasure in giving our testimony to the excellence of the Abrahamson Patent Vacuum Ventilator, two of which are in use in this office and are giving perfect satisfaction.

They maintain a perfect ventilation in the rooms to which they are applied, and we regard them as the best Ventilator of which we have any knowledge. I. L. HANNE, P. M.
L. T. FARR, Ass. P. M.

Architect and Builder.

Oakland, Cal. May 9, 1887.

MR. PETER ABRAHAMSON—*Dear Sir.* In the pursuit of my business, that of Architect and Builder, I have been enabled to place a number of your Ventilators in different offices and residences in this City, namely, the C. P. R. R. Co.'s Office at the mole, the Post-office of this City, the *Daily Tribune* Office, Mr. E. F. Delger's Dwelling and Office, and others, all of whom speak of them with the highest praise, recommending them highly to others. In fact I consider your Ventilators indispensable in every office, for their simplicity and efficiency are wonderful. Should you wish to refer any person to me, I shall be pleased to have you do so. I am, Sir, yours, etc.,

J. S. WHITE.
522 Sixteenth St., Oakland. Cal.

San Francisco, June 1, 1887.

MR. PETER ABRAHAMSON—*Dear Sir:* I cheerfully certify that since you placed your Ventilators in the Court Room of Department No. 12, Superior Court, the air has been uniformly cool and fresh, and the ventilation has been very good and without draught. Your Patent Ventilator is unquestionably a very meritorious invention.

Very respectfully, J. J. GROOM,
Court Room Clerk, Department No. 12, Superior Court.

Sutter Street Railroad Co (Cable Line.)

San Francisco, June 7, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* Your Patent Ventilator placed in my office some time ago, has now had ample time to prove its merits, and in my opinion the objects sought by you are largely attained.

The situation is one of the most trying, the wind having full access and force upon the point selected. Prior to the placement of your device, an open window was the forerunner of a very strong draught.

You so arranged the Ventilator that the opening was a matter of option, but with rare exceptions it has constantly remained open day and night. Very truly,

A. K. STEVENS, Sec.

Tribune Publishing Company.

Oakland, Cal., June 4, 1887.

PETER ABRAHAMSON, ESQ.: I have one of your Ventilators in my office. It gives perfect satisfaction, and I take pleasure in recommending it to those who want pure air without a draught. Yours truly, W. E. DARGIE,
Oakland *Tribune.*

Jacobs & Easton, Insurance Agents.

San Francisco, June 6, 1887.

P. ABRAHAMSON, ESQ.—*Dear Sir:* I have used your Patent Ventilator in my bedroom for the past two months, thus having made a thorough test of the same, and I cheerfully recommend it to those desiring the advantage of a constant current of pure air without draughts. Yours truly,

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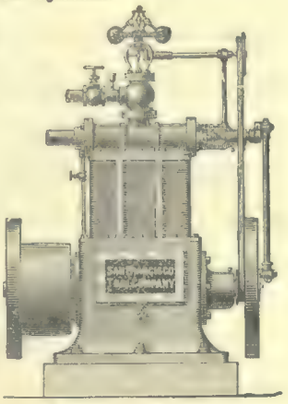

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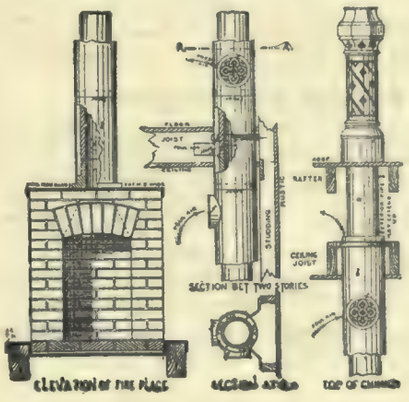

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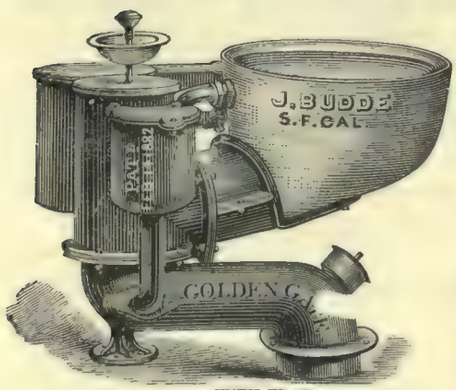

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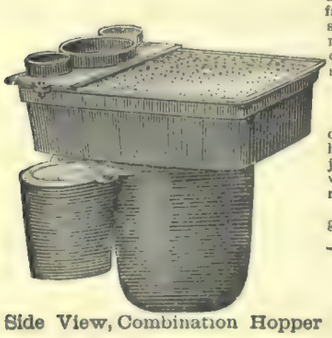
Side View, Combination Hopper

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

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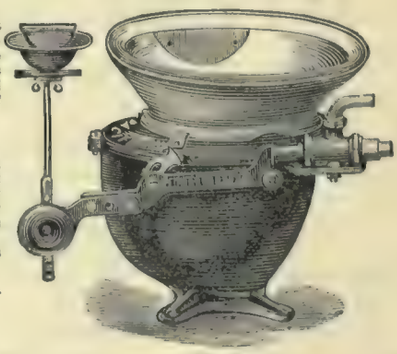
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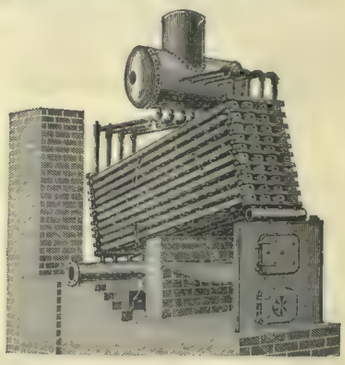

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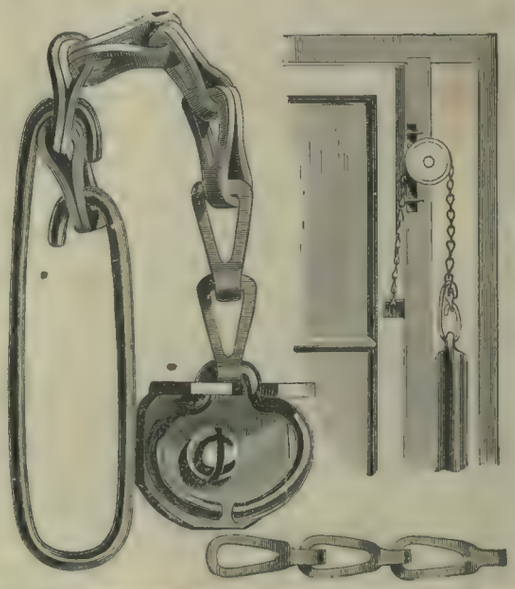

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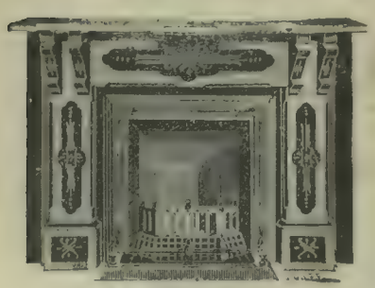

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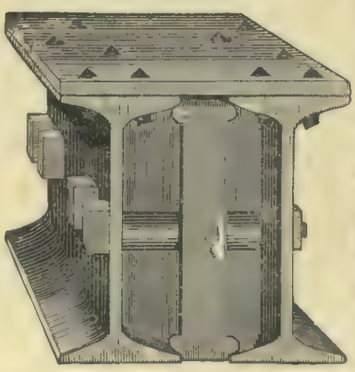

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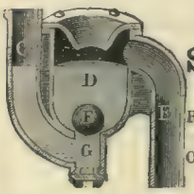

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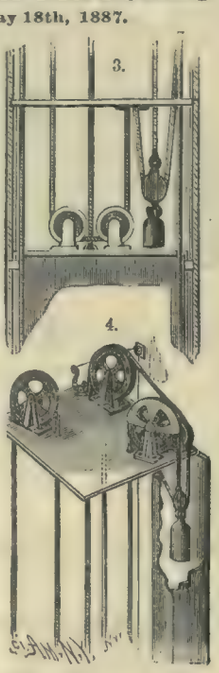

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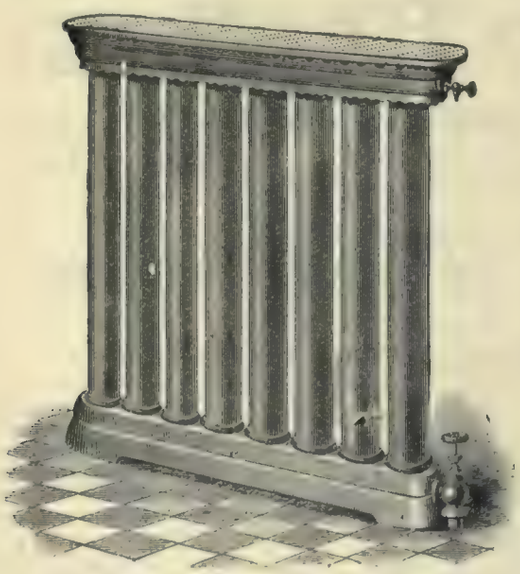

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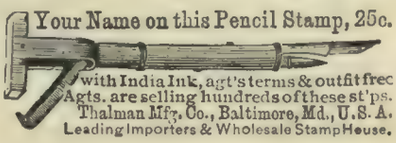
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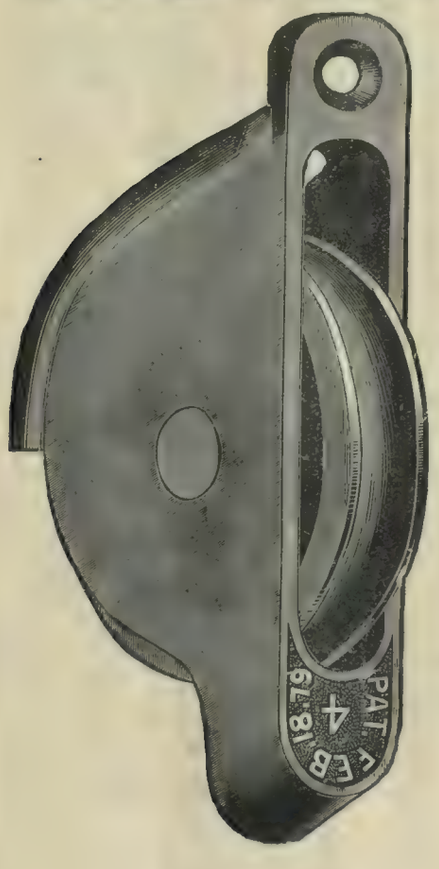

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THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME IX. ENTERED AT POST-OFFICE, SAN FRANCISCO, AS SECOND-CLASS MAIL MATTER. ESTABLISHED JANUARY, 1879. NUMBER 7

THE

California Architect & Building News.

Established January, 1879.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO., No. 240 MONTGOMRY ST. Rooms 11, 12 and 13.

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No Others Received.

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Weekly Building News.

Having received a great many letters in regard to the establishment of the WEEKLY BUILDING NEWS, we desire to make the following statement: When the design was first formulated to give to those interested a weekly digest of building news from every portion of the coast, it was supposed that enough subscribers could be obtained to support the same without the necessity of inserting advertisements. The management was satisfied if expenses were cleared for the first year. The encouragement received was not such as to warrant its publication, unless advertisements were inserted. So the management determined to withhold publication for a while, and in the meantime secure a competent corps of canvassers, through whose aid at least four pages of advertisements will be obtained. It is the intention to have the Weekly eight pages instead of four as it at first appeared, one half of the space to be devoted strictly to building news, and the other half to advertisements connected with the building interests. It will be enlarged from time to time as building activities will warrant. We make this full explanation in behalf of the management, as some parties have ungenerously endeavored to disparage the undertaking and have made remarks utterly beneath those who aspire to be in the front ranks of journalism. Over 1500 copies will be printed and distributed each week and special arrangements will be made to have them delivered where they will do the most good.

The Chapter Meeting.

The proceedings of the last Chapter meeting, given elsewhere in this issue, should be read by every one connected with the building interests.

Subdivisions of the House.

The manner in which the interior of the human dwelling has been evolved or set apart to different uses forms a curious department in the history of civilization. When man has felt a need he has endeavored in some way to supply it. Even while he was still half wild beast he was obliged to have a shelter from the elements. This satisfied, he lived for unnumbered ages with his family or tribe crowded in a single room like animals gathered in a pen or fold. A sense of delicacy, with a longing for comfort, caused the construction of the bedchamber, a desire for convenience of the kitchen, the need of quiet and retirement of the study and the disinclination to admit occasional guests to the intimacy of the household, or the wish to have a chamber where friends might be assembled and which might represent the elegance of the mansion, of the parlor, or as the French now call it, the salon. The word "parloir," (room for speaking or conversation) from which we get the English word "parlor," is still found in French dictionaries, but has been banished from Paris and other large French cities to the most rural part of the provinces.

The word "chamber" was by the French originally applied to nearly every subdivision of the house, the parlor and dining-room included. Now they use it merely to indicate the sleeping-room. Its original usage survives in the phrases, "Chamber of Deputies," "Chambers of Commerce," and some formal modes of speech. The word "apartment," used in English to express the different rooms of a house, means in France an assemblage of rooms sufficient for the need of a family.

Of all the rooms of a family mansion the bed chamber has the most interesting history, not mearly that it has been the ordinary scene of births and deaths, but for social and political reasons. Let us take France for instance as the most pertinent illustrations of the subject. Three hundred years ago all occupations of life were performed in a single large room which formed a great part of the mansion. Here were found the master of the house, his family and the servants engaged in their various occupations. Here the head of the family carried on his literary labors if he was a man of learning, while the woman of the household spun and wove, and the male domestic cooked or performed other menial duties. This was the rule, to which sometimes, in the case of kings and noblemen, there were exceptions. But even a king's bedchamber was not kept private. The monarch generally had two, one where he could take, if he insisted on it, a good honest sleep, and which was of moderate dimensions, and the other a state bedchamber where he held audience, where his rising in the morning and his going to bed at night were in the presence of a crowd of lackeys and courtiers. He was not allowed to die in his private bedchamber, although he could pass there a part of his fatal illness. When his end was evidently at hand he was carried into the large chamber called "chamber of parade," placed in its magnificent bed and permitted there to draw his last breath in the midst of as many of his courtiers and aristocratic subjects as could gain admission. It was because the bedchamber was so public during the Middle Ages that it was so handsomely decorated and that the bedstead became a work of art, many specimens of which are preserved in European museums. In old engraving the king is represented attending to affairs of state in a bed surrounded by his Ministers and parsons of the Court, and great queens partaking of their meals in their chambers, as was the custom, the bed on one side of the room, the table on the other.

It was while the Bourbons were on the throne that the bed and bedchamber achieved their greatness. Here Louis XIII used to receive and converse affectionately with those whom he intended to turn over to the tender mercies of his Minister Richelieu. Here Anne of Austria, when regent, received her Ministers and her distinguished guests. During the reign of Louis XIV the cerimonial attending his getting up and going to bed became ridiculous. To be permitted to assist at the making of the King's toilet in the morning was considered one of the greatest honors that could be accorded to a courtier; to be allowed to take part in the adjustment of the royal shirt, a distinction to be handed down as a tradition to one's own posterity.

As late as 1750 princes and even honest burghers received in their bedchambers. It was during this epoch that the queens of society received in bed. Mme. De Maintenon received the court before she was out of bed in the morning. Women connected with the French Kings by less honorable ties received the homage of their numberless flatteries in the same manner without shame or without seeming ridiculous in the eyes of those who sought to profit by their influence near the throne.

The first salons in French houses only date back to the end of the seventeenth century—that is, to about 1680 or 1690 and the first dining rooms only to 1750. Up to that period the rich had eaten habitually in the rooms where they slept. As for those in moderate circumstances and the poor, they still lived, cooked, slept and received their friends in the same apartment, or if they had a separate bedroom it was no more than a closet or a hole in the wall into which they forced themselves with difficulty.

In England as on the Continent the bedchamber was evolved in much the same manner. There was originally the central hall occupying the body of the castle or mansion, where everybody lived in common and every household office was performed, except perhaps the cooking, which might have been relegated to an outhouse. After the evening meal, which was taken with copious libations, the greater part of those present fell to the floor dead drunk and slept in the straw or rushes that covered it till morning. What bedrooms there were were made by hanging pieces of tapestry or other drapery across the corner of the room or over some alcove or recess in the wall. In time these transient screens became permanent partitions. In houses where the architecture became later more elaborate the alcove in which the bed was placed might be flanked by pillars which served as the support of rich curtains. All this refers to the sleeping-rooms of the Middle Ages, and a period comparatively modern. The Greeks and Romans slept, as any one can see at Pompeii, in little stone rooms that were no larger and not nearly so well ventilated as the cells of an American penitentiary.

In the seventeenth and during a greater part of the eighteenth century no parts of a palace were well warmed, least of all the doors and windows were not well made, and the magnificient fireplaces, of which many specimens are extant, served only to grill one side of the person, while the other was benumbed with cold. This is, perhaps, one reason why so many of the fine ladies of the early part of the last century received in bed. It was quite as convenient and far more comfortable for themselves, while as for their guests, who were often persistent and annoying, they would become tired and leave the sooner.

From this account of the gradual division of the dwelling into rooms it will seen that there was little delicacy and scarcely any comfort, either in England or on the Continent, till the latter part of the last century, or a little more than 100 years ago. There was not much receiving in bed, either of kings or their subjects, after Louis XIV the house existed with all, or nearly all, its modern appointments. There was a separate room for every household function—the parlor, library, dining room, bedchambers, nursery and rooms for servants. It is a king to whom civilization owes much, and whose memory, considering the interest he took in the achievement of our independence should be cherished in America. From the first hut made by the savage man by drawing down the branches of a small tree on all sides and plastering it over, with mud there is, let us say, to the house of the American gentleman of to-day, what a distance! It represents the whole sum of human achievement, the entire development of man's faculties of his intellectual needs, his refinement, his self respect, in short, the best that is in him in sentiment, in moral aspiration. There is in the American house—let us say palace—an excess of luxury that may not always be desirable, and apartments, such as smoking and billiard rooms, which were unknown even in the mansions of France in the epoch of Louis XVI. This princely residence has been evolved from the colonial period, when there was a bed in the front room, another bed in the "keeping room," where the family table was spread, and beds also in other rooms, if by good fortune the house was further subdivided. The enlargement of the house came first in the Northern States. In the Northern States the bed is still a conspicuous object in all houses except those of the rich, the peculiarity being due in part to the absence of an entrance hall, which represents in its scanty dimensions the hall of the castle in which the old baron held wine and wassail.

The houses are built so close together in Atlanta City, that women can borrow kettles and flat irons through the windows without going out-doors.

San Francisco Chapter, American Institute of Architects.

The regular monthly meeting of the Chapter was held in the rooms of the Art Association on July 6th. W. P. Moore, vice-President, was in the chair. The following members were present: W. P. Moore, G. H. Wolfe, J. J. Clark, A. Pissis, J. E. Wolfe, W. J. Cuthbertson, R. H. Daley, H. T. Bestor, M. J. Lyon.

After the routine business was disposed of, the special committee on Competitions reported that as yet they had come to no definite conclusion. The whole matter in regard to Competitions was then thoroughly discussed by every Fellow present. It was thought that the present was the most opportune time for discussion, owing to the fact that there were two large competitions on hand.

The "Olympic Club Competition" was the one principally discussed, as the remuneration offered for plans was totally inconsistent with the amount of work expected.

(It is generally understood that a certain architect had been selected in the first place to prepare the plans; but on the representations made by three other architects, who are members of the Association, that, being members, they were entitled to have an equal show, it was decided to have competition plans.—Ed. Architect.)

Great stress was laid on the propositions that the main point to be considered was the appointment of a PROFESSIONAL REFEREE to decide upon the best plan, and, secondly, the successful competitor to be the superintendent. with compensation at full professional percentage. It was remarked that a committee had been appointed to make the selection. The members of the committee were human, and liable to err, and that was the point most to be feared, as the committee's decision, even if palpably wrong, was nothing but an error of judgment.

One member was very emphatic in regard to the liability of committees erring. (The best name to call it is *beforehand fixing.—Ed. Architect.*) The public should be taught the right idea in regard to to the value of an architect's services. Examples in the past show conclusively that the whole system of competitions is a fraud. In fully 90 per cent of the competitions in California, a committee will, through a circular, invite architects to prepare plans, knowing *beforehand* in their minds, that the choice of architects has been decided upon. Reference was made to the Competition in regard to a large public building in this state. Eleven competitors offered plans. Each one presented seven sheets of double elephant paper, representing all the points to be shown, thus making seventy-seven sheets in all to be examined IN ONE HOUR after plans were received by the committee, the award was made, showing conclusively that the successful party had been selected beforehand. No *honest* set of men could have unrolled seventy seven sheets of paper and laid them out on a table ready for a thorough examination in the short space of one hour.

In another case of a church in this city, one of the trustees of the church came to the speaker and told him it was no use for him to send in his plans, as the selection had been made. It is not to be presumed that a church trustee would steal directly money from your pocket, but here was a clear case of robbery in permitting architects to take their time and the money necessary for draughtsmen's services, paper, etc., knowing full well he was throwing away the same.

Another case, where the church committee wanted it distinctly understood that under no circumstances would any plan be considered, the cost of which exceeded $60,000. Some of the competitors, since dead, religiously prepared their plans, keeping that figure in view. The plan adopted by the committee was evidently selected beforehand. The building, when finished, cost $115,000. The speaker inquired by what right had a committee selected the plan, knowing it could not be built for the amount called for, thus, virtually telling several parties who had honestly striven to comply with the requirements of the printed circulars calling for a competition, that they had been asked to present plans merely for a show of fairness, the architect having been decided upon beforehand.

One member thought that the only way to prevent the abuse referred to was for architects not to engage in competitions. This was answered by another member, saying in that case eastern architects would be invited. Another member facetitiously remarked that Stockton has a dose of good eastern architect, and he for one was not afraid of eastern competition.

Another point was brought out in the discussion. Committees would be in a great rush for plans. They *must* be in by the time prescribed, and in many cases, notably the Lick Trust Statuary, keep plans after receiving them for months before giving a decision. This was unjust to the architect who had paid out his money for help and given his own time towards striving for a premium. The architect had a right to know if he was to receive any of the advertised premiums.

The committee was granted further time to make a full report.

One of the members of the committee on the "Registry Book" reported adversely to the proposition made. The matter was postponed until next meeting, in order to hear from the other side of the question.

Adjourned.

A Fair View of the Situation.

While the prosperities in California are no less inflated than they have been, viewed from a building stand-point, they are far from discouraging. The cooling down from a boom condition, to one of natural, permanent and regular character, cannot but produce a changed appearance, and to some extent modify hopes and expectations that had run wild in outreachings after results, that should be waited for with some degree of patience. Eagerness and haste to attain and accomplish ends more rapidly than circumstances warrant, as often end in disappointment as success. The natural laws that govern and control human affairs, will regulate and equalize things; and when pressures beyond the requirements of communities are brought to be enforced, the stimulated and inflated must yield to the resistance that fixes limitations at which human calculation, ingenuity and persistenc must halt.

That overreachings have influenced transactions in the offerings and sales of building lots and lands in the cities and county districts of the state, and their values; and that fortunes have been realized, both by sale and purchse, cannot be denied; but many will have to abide their time when they will be able to obtain present and recent par-investment prices; still the state is solid in every part, with a grand future in prospect. That which has been forced is simply anticipating that which was destined to come to pass in due time. The only question being as to whether it is always, or at any time prudent to attempt to forestall the inevitable, by force of vigorous and shrewd efforts, or to go a little slower, and be patient until the times come when the demand shall equal the supply, and necessities call for an advance.

By all this the building business has been materially affected in several ways. In the inflated localities it has caused vigorous building activities, and large demand for building materials. This has led to advance in prices, not only as to the special localities in which such activities existed, but in all parts of the state. The expansion of market for materials so far enlarged the field of demand, that manufacturers had it all their own way in dictating prices; and so long as this demand continued active prices, however exhorbitant, had to be submitted to because there was no need for competition, as between manufacturers, each and all being able to dispose of their products at ruling rates; hence improvements everywhere, both in the commercial and older cities, and in all the newer portions of the state, have, for a year or two past, cost more than they would have cost when lumber was free on the market, at from three to ten dollars, or more, per thousand less than the prices at which it is now held, and has been for the period named. And while a few dollars per thousand upon the item of lumber alone is not a material factor in the general result of cost of a building, it is nevertheless of sufficient importance and magnitude to deter those who deem ruling prices an extortion, from undertaking building improvements.

The lumber manufacturers of the Pacific Coast complain that their product should be made the obstacle to any improvement, and assert that present rates are none too high: that the cost of production fully warrant, and equity of profits not only fully justify even present prices, but that a still greater advance would be reasonable.

Be this as it may, the manufacturers are themselves to blame for the adverse opinions held by the community, as they—by their uncertain standards, varying rates from time to time, according to the spirit of competition in exercise among themselves, sometimes supplying the market at rates which no informed person would consider near remunerative, yet impressing the public mind that if rough lumber could at any time be sold for twelve or thirteen dollars per thousand, why should it be worth much more at any time, or under any circumstances.

The fact that the manufacturers were at war among themselves was no affair of consumers, and the misfortunes of a "broken market" that unquestionably did, during the great competition eras, result in loss to the lumbermen, is a matter that the public disregard; and owners of real estate have been and are unwilling to recognize fair dealing in prices of lumber of the same kind and quality, at one time twelve, and at other times twenty-two dollars per thousand.

Another feature of the case is, that building improvements in the larger cities have been retarded by reason of the very many land and town lot booms that have been offered in nearly every portion of the state, with every device known to the shrewd and active minded men who have managed them, to induce investments; and hundreds of thousands and millions of dollars in the shape of speculative purchases have been drawn away from the commercial centers, that would have been spent in building improvements under a less inflated rate of things.

But reactions under their circumstances do not by any means indicate failure in any extended sense; but a mere checking up in the heated race, to acquire wealth speedily, a cooling down from fever heat to a normal condition, and an equalizing of transactions, with the necessities of the times.

Interesting Lawsuit against a Firm of Builders.

A case was recently tried in England involving the responsibility of contractors, which we find reported in the *Builder*. The Messrs. Peto Brothers, very eminent builders in London, had a contract for the erection of a hotel in Covent Garden. In carrying out their contract, they were obliged to excavate about nine feet below the foundation of the wall, between the hotel and the adjoining house and underpin the wall. In doing so the wall was cracked from top to bottom. The owner of the adjoining estate sued the Messrs. Peto for damage to his wall. The contractors resisted on the ground that the work which they had done was carried out under the provisions of the Metropolitan act, and that the settlement and cracking of the superstructure was an inevitable consequence of the underpining, and they urged that the work having been done in accordance with the statue, no one could be held liable for the result of it; that if any one could be held liable, it was the owner of the building they had constructed and not themselves, and finally, that the work had been carried out with the utmost care, and that, as the cracking was avoidable under any circumstance, there had been no negligence involving anybody's responsibility. The defendants did not call any witness to prove their assertion that the cracking of the wall was the necessary consequence of underpinning it, and his lordship, the judge, remarked that if all the builders in London had come and said so he should not believe them. In his opinion there had been very considerable negligence. He was sure that the settlement was not the inevitable result of the work done, because he had himself seen a wall underpinned without producing any cracks, so that the damage not being the necessary consequence of work done according to the statue, the defendants could not use that for avoiding their responsibility, and for much the same reason, the burden could not be shifted on the shoulders of their employer. No one remained to bear it except the builders and the judge condemned them to pay the assessed damage to the wall, about two hundred dollars, with two hundred and fifty more as consolation to the owner of the injured house, and the costs of the suit.—*American Architect.*

The Mechanics' Institute Fair.

The annual Fair of the Mechanics' Institute will be held in the usual place, commencing next month. It is now about time that our Carpenters and Joiners made a display. Every other branch of industry has been represented, but, with the exception of a large shaving or two, nothing has been exhibited as the handiwork of a large portion of our wage workers. Perhaps this notice to the Builders' Association may cause some of our skilled carpenters to prepare articles for the next Fair.

STEEL SQUARE AND ITS USES.

We have just received a large number of the above named books. A copy will be sent to any address upon receipt of ONE DOLLAR. It contains a full treatise on the Carpenter's Steel Square and the numerous uses to which it may be applied.

A widow with a brown-stone house is as attractive as a building and loan association.

The cross-cut saw gets dull in spite of its teeth.

A Very Interesting Letter From Messrs. N. & G. Taylor Co. of Philadelphia on the Subject of Roofing Tin.

PHILADELPHIA, June 30th, 1888.

EDITOR, CALIFORNIA ARCHITECT AND BUILDING NEWS, San Francisco, Cal.

Dear Sir: Our attention has just been called to a letter which appeared in your issue of May 15th, signed by Messrs. Merchant & Co. of our city. It is so full of errors and mis-statements, and its tone is so unjust, that were it not substantiated by appearing under your own sanction, we should very much doubt it authenticity, and would pass it in silence.

In fact, no reply from our House would be necessary in any *Eastern* paper, but some explanation is due to *your* readers, accompanied with a few *facts*.

Messrs Merchant & Co. appear to forget that when they went into the tin plate business not many years ago, they found our firm selling guaranteed and stamped brands of tinplates. They know that it was our custom at that time to stamp the brand and our name on various plates, and they also know that very many years before they introduced the Gilbertson's Old Method in imitation of the Genuine OLD STYLE brand, we had always stamped the top and bottom sheet in each box of the Genuine OLD STYLE with the brand and our name. Those of your readers who are fortunate enough to have some of our old circulars or catalogues of that time can confirm us in these statements. It was on account of imitations being used that we were compelled to have *every* sheet of the Genuine OLD STYLE brand stamped with the brand and trade mark, as well as our name as guarantor. While we have been followed by others in the matter of stamping the brand on Roofing Tin, they fail to follow us as far as having their own name added, without which what redress has an architect or property owner?

We cannot conceive how any one can have the presumption to appropriate to themselves novelties which clearly originated with ourselves, and while we *regret* the tone of their article, and the necessity of a reply on our part, still misstatements must be corrected.

We fail to see the cause of this outburst of feeling against the Eastern Importers and tin roofers (who, as every body knows, are well acquainted with the *real value* of all brands imported) unless it be their failure to confirm the estimate which Messrs Merchant & Co. wish to place on certain brands of tin. Messrs. Merchant & Co. attack the tin roofers of Philadelphia, using this language: "But when we assert that ninety-seven per cent. of the roofers (as far as our own city is concerned) who upon receiving a contract will buy and put on wasters instead of primes, we state only a fact." This is a sad reflection upon the integrity of our roofers, that "ninety-seven per cent, of them are entirely devoid of all business honor."

We fail to see how our friends, Messrs. Merchant & Co., can possibly substantiate this assertion, unless the contract should call for one of their own brands, and they should sell the wasters bearing the same stamp as the prime. It could not occur in any other way, and probably not in this, at the present time, as it was through the Philadelphia roofers that it became known that Messrs. Merchant & Co. were selling the *wasters or imperfect* sheets of so-called guaranteed plates *stamped exactly like the primes;* The tin roofers of Philadelphia, as a class, bear the highest reputation for their quality of their work, and the knowledge of the relative value of material. We have customers in this city who have been buying of us continuously for over *forty years;* others whose parents and grand-parents bought of us—old and reliable mechanics who learned their trade before the time of labor-saving machinery, and who not only know a good article of roofing tin, but also how to put it on a roof. We have been closely identified with all these men too long to imagine that such a charge could be made against them. If an architect should be deceived, and the roofer comply with the sepcification, the fault should not fall upon the roofer, but upon the one who has deceived the architect.

The celebrated OLD STYLE brand is now so well established upon the Pacific Coast that it needs no defense nor encomium at our hands. It has been sold a great many years with perfect satisfaction unaffected by any competition. Messrs. Harper, Reynolds & Co of Los Angeles handle car-loads of it; the John Stock's Sons of San Jose have used it in large quantities, and the fact that the large house of Messrs W. W. Montague & Co. of San Francisco have allowed us the use of their name as headquarters for the sale of the brand in San Francisco is of itself sufficient evidence of popularity and confidence.

Many years ago the first sale was made in California, if we recollect aright, to Mr. G. H. Swinerton of Sacramento city, and a large lot was sent to Walla Walla, Washington Territory, thus inaugurating on the Pacific Coast the use of a high grade guaranteed roofing tin. We simply insert these facts here to show your reader that our OLD STYLE brand is the original brand—the pioneer in the field—and that all other plates made by the manner of hand dipping have simply sprung into being *imitation of our brand*, but, of course, without its characteristics. There is no occasion to enter into an elaborate array of facts and dates; it is simply sufficient for *us* to say that we have always guaranteed the OLD STYLE brand of ternes, in fact, a *guarantee* accompaning this brand of the *original intention in introducing it.* It has always been made and sold to the trade with this distinct understanding by our House. To guard against imitations when we introduced the brand we took special precautions to have every top and bottom sheet of it stamped with the brand, as we have already stated above, and this was done many years before any rival appeared in the field at all. Later on we found it was imperative to have every sheet stamped, not only with the brand and thickness, but also with the trade mark of target and arrow, and at the same time, the brand was duly registered in the English courts.

We wish to introduce some collateral evidence here as to who were the first to stamp tin plates or roofing tin. The first selection is from the London *Ironmonger* of May 14th, 1887, and reads as follows:

ROOFING PLATES.

To the Editor of the "Ironmonger."

SIR.—N. & G. Taylor Co., Philadelphia having called our attention to the injustice of an article which lately appeared in your journal, we feel sure that you will give us an opportunity for explanation upon their behalf.

We desire to state for the information of your readers that the "system" of stamping and branding each sheet separately, which is claimed as a novelty by a competing firms is simply a gross imitation of an idea which originated with N. &. G. Taylor Co. and has been carried out at their request for their "Old Style" brand of terne-plates over many years.

We have reason to suppose that the new mode of branding became necessary for the better protection of Messrs. Taylor's purchasers against the numerous attempts to imitate and counterfeit the well-known and successful "Old Style" brand, as employed for terne plates of the highest quality.

Yours obediently,
THE COPPERMINERS' TIN PLATE CO., L't'd.
P. W. FLOWER.

Cwm Avon Tinworks, Port Talbot, South Wales, May 9.

The second selection is from a letter to us under date of March 30th, 1887, from the Cookley Tin Plate Works, which letter is in our possession. Many of your readers may recollect the photographic reproduction of it which we issued last year, and we extract from it simply the followlng paragragh bearing on the matter in question:

"As others have followed you in stamping the brands on plates, it is no more than *justice* to yourselves that the fact should be made public that we have followed this custom *for you* at our works for at least fifteen years, having without interruption during that time so stamped, at your request COOKLEY K Tinned Sheets."

The elaborate catalogue issued by our House in the year 1872 will be found to contain the distinct guarantee made by us on hand dipped plates, for which we received the only award of merit given at the Centennial Exposition held in Philadelphia 1876. The diploma and medal we have at our office here for inspection.

At the commencement of their article Messrs. Merchant & Co. say: "The Gilbertson's Old Method and Camaret are the only two brands of roofing plates in the market to-day of which no imperfect or waster sheets are imported." *This is not true*, and the claim is probably made with a view of counteracting the effect of our circular of May 24, 1887, an *original* copy of which we enclose for insertion elsewhere in your present issue. At that time the *Camaret Wasters were stamped exactly the same as primes*, and there was no security at all in the use of this brand.

As already stated above, importers are well acquainted with the value of all brands imported, and each one knows whether the wasters of his plates are passed through the patent rolls and shipped to America, and sold under another brand as *prime*, or are sold for consumption in Europe.

Now there have never been any wasters of Cookley K at all, and we again bring in as a witness the following additional ex-

tract from the same letter of the Cookley Tin Plate Works, a follows:

"The home trade are only too glad to secure the wasters at a very slight reduction, *and these are not shipped to America.*"

Is anything more conclusive wanted as proof that Cookley K Wasters have never been imported?

In conclusion, we have to state that there are no Wasters of the OLD STYLE. We have had them, but they were *never* stamped, and they could not conflict in any way with the use of this brand in prime. We discontinued the importation of them some time since, and if there are any to be had to day, they must be some very old stock indeed. Architects and property owners have always been fully and amply protected in the use of the OLD STYLE, by the fact that no Roofing Tin is the Genuine OLD STYLE brand unless it bears the stamp. Even if the roofer could obtain Wasters he could not use them, as they would not be stamped. Any one could detect such a substitution, just the same as if any brand at all were put on in place of the Genuine OLD STYLE. We don't see how we could more thoroughly protect architects and property owners in the use of the OLD STYLE brand.

We thank you for the space you kindly grant us for the insertion of this article. We have tried to make it as brief as possible. We have stated our position, and fortified it by facts beyond dispute, and we further strengthen it by evidence from two of the largest, most prominent and reliable makers of Roofing Tin in Great Britain.

Very truly yours,
N. & G. TAYLOR CO.

Wood, Plaster and Concrete.

The respective merits of these materials in the construction of buildings have recently been reviewed in their relation to the acoustics of theaters, and the general gist of opinion is that concrete has proved a success. It is obviously difficult to compare two materials like wood and concrete, so different in their phisical properties. But for the inflamable nature of wood, it must be admitted to be the most desirable acoustically for the lining of rooms and halls adapted for music. The Italian congress of architects, in 1880, laid down certain rules respecting the form and materials desirable for halls of music and theaters, one of which was that wood was the proper material to augment the energy of sound, and giving preference to fir; they also recommended that the room should be lined with wood, isolated as much as possible from the fabric of the building; that the soffit of tne theater (ceiling) and the fronts of tne boxes should have their surfaces composed oi thin planks, fitted together like boxes, and the columns should be of wood, also hollow.

These recommendations, obviously intended to promote resonance, are opposed to all our ideas of incombustibility, and, in fact, would promote the spread of flames. No better prescripiion for an inflammable interior could be given than that the hall should be lined with wood isolated, and that the boxes should be separate boxes of wood.

From acoustic considerations, then wood is preferable to all other materials as a wall lining, but its inflammable nature renders it undesirable in the construction of the auditorium of a theater. For the re-enforcement of sound, it stands foremost; in other respects its presence adds materially to the risks of fire. The employment of plaster or cement is undoubtedly inferior as an acoustic surface; it has none of the vibrating properties of wood; the sound waves recoil and produce confused sounds.

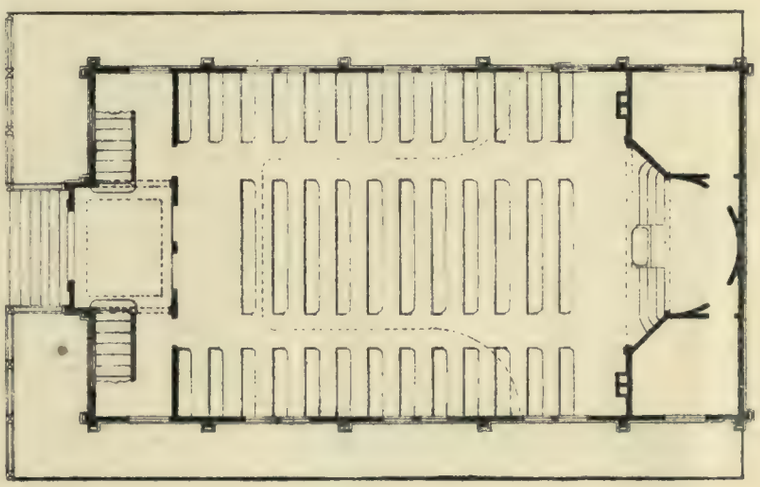
STEEL SQUARE AND ITS USES.

We have just received a large number of the above named books. A copy will be sent to any address upon receipt of ONE DOLLAR. It contains a full treatise on the Carpenter's Steel Square and the numerous uses to which it may he applied.

A prominent architect of this city has recently given up business and retired to the country. He is young, talented, energetic, and a master of his profession; but the question plugged to him by a female client was too much for him. She asked him why he didn't divulge his plans.

"Where are ye livin' now, Moike? "In Donegal Street, No. 11. Come and see me." "Faith, I will. Ought I to come in be the airy, or be the front dure?" "I dont care; but as I'm occupyin' the garret, it would be more convanient for ye to come in be the skylight.

Elevation



VILLAGE CHURCH.—The plan illustrates a design for a small, plain neat church, in the modern American style of church architecture

The pulpit is placed in the rear, with a room on each side, to be used for a choir, trustees and studio.

The building is well lighted by high double windows, glazed with different pieces of colored glass, separated by small sashes and two bars across the center. On each side of the vestibule is a wide flight of stairs leading to hall above, which communicates with a large, spacious gallery. The recess containing the pulpit has a large proscenium arch in front, with ornamental brackets.

The foundation is faced with pressed red bricks, laid neat and close, with white mortar joints. The rafters, purtins, studs, etc., can be dressed. chamfered, olled and varnished, making a very nice inside finish. and sufficiently broken to form a good acoustic.

The inside is neatly finished with capped, grained and varnished wainscoting. The floor has a gradual fall toward the pulpit, thus affording a nicer arrangement of the seats, and a better view of the pulpit, as one pew rises slightly above the other.

The church is entered by a wide flight of stairs, through large, double-paneled doors, with a semi-circular rosette, and a small, fancy, projecting gable above. The sides and front have large, heavy projecting buttresses, running nearly up to eaves, which gives the church a heavy, rich appearance. The steeple is a very striking feature of the building; the small windows, with louvers above and below, thoroughly ventilate the building. The fancy shingling, gables, pilasters etc., are all pretty in design and form a neat, unique and inexpensive spire.

Any further information in regard to construction, painting location, etc. will be promptly forwarded on application. Address,
SALFIELD & KOHLBERG, 339 Kearny St., S. F.

How to build the House.—Some things one ought not to do.

By Edward W. Blakely.

That there are architects and architects, and that their work ranges from very good to indifferent and extremely bad, is a fact that no observant person will for a moment question. As it must moreover be admitted that the number of really first class architects is quite limited, it follows as a matter of course that there must be a great deal of questionable work done in the way of planning our dwellings and business buildings, especially in our large cities and towns. While recognizing the really excellent result produced by many of our practical architects, and the magnificent buildings that adorn our own and other cities, it must be said that there are many residences where the flagrant disregard for everything but effect is so evident, that one might well wonder if ever an architect designed them, or if like Topsey they "growed."

I have in mind a house where it is almost impossible to use any article that is of what might be called regular size. Without exception every room is some inches out of the regular width for a carpet, and in order to cover the floors a fraction of a width must be on one edge, and in the length, the carpet wastes in cutting according to the number of figures in the yard. Some of the rooms are quite large, and in selecting an elegant carpet for one of them it was found that as the desired style had one pattern to the yard, and there were eight length required, the waste on account of the awkward size of the room would be a trifle less than half a yard on every length of carpet. Two inches over a width must be added to the sides, which necessitated the purchase of an entire length in addition. The trifle more of width, while very little advantage to a room of that size, made six yards of carpet necessary in order to fill a few inches of space, and instead of calculating with any idea of ecomony the architect entailed a cost in carpet alone of nearly $30 to cover a space two or three inches wide on two sides of a room. Whenever it became necessary to purchase or refit carpets for the floor in that house there was an amount of grumbling, and when at last it passed into other hands and was offered for rent, several persons refused it because of the enormous waste of carpets, the useless pieces alone costing more than enough to cover the floor of one good sized room.

The casings of all the best rooms are elaborate and project some distance into the apartment, aud it is necessary to cut out not less than four inches from the edges of the carpets in order to fit them around the moldings. In this way the borders are almost destroyed, and it would be impossible to change them about or put them down in other than the original way.

The windows are about three inches wider than the ordinary, and shades must be made to order, a trifling item for the original owner, but of a great deal of importance when the house came to the renting stage. They are too narrow for fine effects with ordinary lace curtains, and could not well be used with more, and the curtain poles used in other houses will not fit at all. The spaces between the windows or doors are too narrow for ordinary articles of furniture, the hall is an eccentricity; and so all over the house; there appears to be a sort of vicious disregard for established usages, and it is as though the designer had been seized with a desire to make every item of fitting up and furnishing as expensive as possible, without in any way giving an adequate return either in comfort or convenience, or even in beauty of detail or general effect. It really is quite as easy to build a house properly, as to construct one which is so conveniently shaped and badly fitted that nothing one may have will suit it.

There is need of a great deal more practical common sense than is ordinary shown in the planning of houses. Between the traditions of conservatives and the technical knowledge of some of our professional architects the housekeeper fares very badly. Economy of space, which in city residences especially is of the highest importance, is apparently quite disregarded, and angles and corners are left vacant when they might be used to the greatest advantage, while the spaces occupied by cupboards and closets could be left free to the manifest convenience of those who perform the household service.

In beginning the plans for the building of a dwelling, special consideration for health, convenience and comfort should be the leading ideas. Architectural beauty is a minor matter, and where the choice must be made between beauty and convenience the former should always be sacrified. This is not, however, the plan followed by the average architect, who is quite likely to ignore every principle that conflicts with the beauty of symmetry of his design.

There is an urgent demand for plans in which economy of space and simplicity of design are the leading features. Country people of moderate means have little time and less money to spend on architectural ornamentation or effect. Given a neat, comfortable dwelling at a moderate cost and they are quite content to dispense with angles, gables, and oriel windows until such time as the farm or the business is paid for, and the income will warrant their indulgences in some of the decorations and luxuries of life.

There is more useless room in the ordinary kitchen than in any other portion of the modern house. The idea seems to have come down through the years that a kitchen must be wide and roomy, and with a big throated chimney. Other points have not attached to the plans for this apartment, and upon this skeleton of a suggestion each architect hangs whatever convenience may, according to his conception of the needs of the place, be required. As a result we have for country houses great barn-like rooms bitterly cold in winter, and exposed to the beating sun of summer, a wide doorstep, and a flue that is large enough to carry all the warm air out of the place in winter, and so wide that the draft of the stove is more by grace and the weather, than because of any rational arrangement to accord with the principles of ventilation.

Anyone who will take the trouble to go through a ship's kitchen will see at a glance what are the possibilities of economy of space. The entire stores for hundreds of persons may be prepared in a room fifteen feet square. It costs but little when building a house to provide sensible, practical conveniences in the way of pantries, cupboards and lockers, and the most trifling outlay may save any amount of hard work and time, which may be turned to valuable account.

Not many years since I heard a farmer's wife say that she had spent weeks of time carrying every drop of waste water through the kitchen and over an entire length of a long porch to throw it into a drain. It would have cost three or four dollars to run a pipe from the kitchen sink, under the porch to the drain, but this was deemed an unnecessary expense, and so this woman had walked a distance of over thirty feet and back from the kitchen sink to drain on an average of eighteen times every day, and in summer weather even much more than this.

Her China closet is situated on the side of the dining-room opposite to the kitchen, and every dish must be carried across the dining-room to be put away. To get to the cellar she must cross kitchen and dining-room and go down the cellar under the main stairway, or else go half way around the house and enter by the outside cellar stairs. The milk is kept in a spring house at least one hundred feet from the door, and as there is no convenience there for washing the pans, all of the milk things must be brought to the house and washed.

The water for all of this work is drawn from a well with buckets and heated in a kettle or boiler on an ordinary stove. On the evening before washing day the wearisome task of getting the water ready must be gone through with. Bucketful after bucketful is drawn and poured into a barrel, and into this is thrown a little wood ashes, just how much the housewife is able to tell exactly by tasting it. Then all must be carried to the kitchen, and the work of washing may begin.

And yet these people are economical of everything except time and strength, or at least they think they are. But the cupola on the top of the house cost more than a set of stationary tubs would have done, with all of the drainage pipes and fittings to carry the waste water down a hill and into a small stream at the back of the house. The extra filligree work on the porches cost more than a well arranged cistern, and the outlay for a set of brackets under the edge of the roof would have built a cellar stairway twice over.

But under those unfavorable and laborious condition an intelligent American family lived and toiled. That they prospered and grew wealthy was no doubt due to their energy and persistence, but when one takes into account how much more time there would have been for even necessary work, the thousand and one things that are always to be done in a farm house, it seems a poor comment on the good sense of the average individual to pay out money for architectural frivolities and unnecessaries, and let the wife and daughters wear themselves out for lack of a few conveniences.

The china closet should be built in the wall between kitchen and dining-room, or in such a location that it is accessible from both rooms. Every house of any pretentions should have drain

sink from the kitchen or some point near the kitchen door, and pipes to carry water away. If the house stands on an elevation this is a very easy matter. A well or pump should be so arranged that the task of drawing water will be as light as possible. A cistern should be built with every house, no matter how unpretentious. A few hours of work and a very small amount of material will be sufficent to provide a place for enough ice to last nearly all summer.

A couple of ingenious boys once made a most admirable arrangement of this sort at an almost nominal cost. They lived on a bit of table land at the foot of a hill. There was a spring in the side of the hill and a spring house for milk and butter. The boys dug a deep hole in the side of the hill above the spring house smoothed the floor, slooped it slightly downward on the outer edge, and coated the bottom and sides with water-lime cement. There was a slight depression in the floor near the front, and from this a few feet of iron pipe led down into the ground and connected with a trough or a spout made of the trunks of small saplings. These the energetic lads had contrived to split in two pieces, the middle was cut out by a gouge and hard work, and the too pieces of the sapling were then nailed together and connected with the iron pipe leading thence through three or four feet of earth to the spring house, where it ended over a trough. The bottom of the pit in the hill side was repeatedly washed and allowed to remain uncovered until snow fell. A large bundle of clean oat straw was placed over the pipe and carefully packed down. The floor of the pit then had about a foot deep of clean sawdust from the neighboring mill. This the mill owner was glad to get rid of and the boys to get it in large loads. A store of sawdust was laid by for future use.

The pit was about twelve feet square by fifteen feet deep, and when the first snow fell the work began.

Every leisure moment was occupied in filling the pit with snow, packing it closely and pouring on just enough water to make it solid. As fast as the pit filled up the boys filled in the sides with a foot or more of sawdust. Long before spring the pit was full. Then a great mound of sawdust was piled over the ice and the earth was thrown over it. Above this were bundles of straw over which sawdust was sifted until it formed an almost solid mass, then more earth was piled on and a double row of Maderia roots was planted just at one edge.

In the case of this family other improvements followed this beginning, until the house had its own system of water-works, and by the time they had so prospered that a new house was to be built, the ingenious boys had perfected a plan by which not only their dwellings, but all of the farm buildings were abundantly supplied with water.

The cost of materials used for the first snow pit was less than five dollars, and it was estimated that the gain on its account in dairy products alone was not less than fifty dollars for the season.

This is economy, and it is a kind that is much less common than it ought to be.—*Decorator and Furnisher.*

LUMBER INTERESTS.

Unpleasant Charges against the Mills by the Loggers.

"I have reduced the output of my camp at Stuck Junction fully 25 per cent," said Terrence O'Brien, Thursday, "and will shut it down altogether after the Fourth of July, unless the railroad company shows a disposition to be more accommodating in the way of furnishing cars. I shall also

REDUCE THE OUTPUT

Of my camp on the Seattle, Lake Shore & Eastern about one-third. While the mills are cutting down our scales, and also cutting down the price of logs, they fail to reduce the price of lumber one cent on the thousand. The excuse for their conduct is that the bottom has fallen out of the California market, but I notice that the mills run night and day, just the same, and turn out as much lumber as they can. The whole trouble now threatening is brought about by an over supply of logs. This spring prices were good, and every man who could get hold of a piece of timber started a camp, which he had a perfect right to do. About this time the Port Blakely mill burned down, thus

REDUCING THE CONSUMPTION

About 200,000 feet per day. Notwithstanding this new camps were opened, and as soon as the mills discovered the large surplus of logs on hand and the increased production over the consumption they at once commenced hammering down the price on logs. The men in the logging business who had made their business a study saw just what this over production of logs would lead to, and for the purpose of

AVERTING THE GREAT CALAMITY,

The Loggers' Association of Puget Sound was formed. It is the desire of the association to regulate the production of logs so that the logger will get a fair price for his labor and interest on the capital he has invested in the business."

"What did you mean when you said the mills were cutting down the scale as well as reducing the price of logs?"

"When a man sells a boom of logs to a mill company the logs are towed to the mill and there scaled and the logger paid for his timber according to the mill scale. At the same time every intelligent man engaged in the business

SCALES HIS OWN LOGS

Before they leave the camp, so as to know about what he is going to receive for his boom. The other day my friend Curry sold a boom, and the mill knocked 125,000 feet off his scale in a boom of something like 425,000 feet."

"Why did he submit?,"

"What could he do? He must accept the scale they give him or take his logs back to camp at his own expense. You see, the

MILLS ARE ALL BANDED TOGETHER

Under what is known as the Puget Sound Brokerage Association, and when a fellow offers his logs to one mill that settles it, for he must sell his logs at that place or not at all. If Curry had towed his logs to another mill he could not have sold them at any price, so he submitted to what any fair-minded man would call a piece of highway robbery."

"Has there been a falling off in the price paid for logs?"

'Yes, and there is

NO USE DISGUISING IT.

But there has been no reduction in the price of lumber. Logs that brought $7.50 per thousand readily, six weeks ago, now only bring $6, and shorter logs, which brought $7 per thousand, now only bring $6 and $6.50."

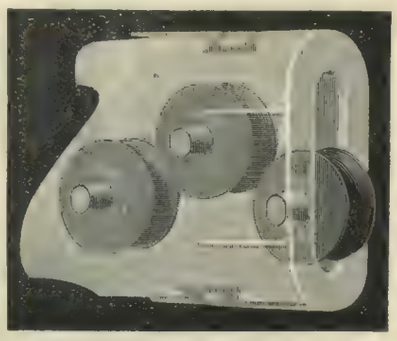
"What remedy would you suggest?"

"Simply a common sense remedy. There is a good foreign as well as good domestic demand for lumber, and the mills must have logs to supply these markets. My idea would be

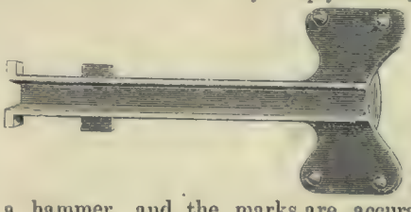
TO REDUCE THE PRODUCTION:

Of logs to allow the mills to consume the surplus on hand at present, and then only cut and put into the water sufficient timber to keep the mills running. By pursuing that course the logger would always be enabled to command a good fair price for his timber, and the mills at the same time be making money."—*Seattle Post Intelligencer.*

THE IDEAL SASH PULLEY.



We illustrate herewith a new Sash Pulley just completed and now ready for the market. It is known as the "Ideal" and is manufactured by the Stover Manufacturing Co., Free Port Ill., who claim it is the cheapest and best ever offered to the trade, and the easiest and quickest put in place. It requires the boring of two seven-eight inch hole to make a place in the frame for the Pulley which makes its own mortise by simply driving it in, insuring a perfect fit in every instance. A little Marking Guage, also illustrated, is used to make the prick marks for boring the holes. The Guage is laid in the groove in the frame end, struck a light blow with a hammer, and the marks are accurately laid out for boring. No chisels or screws are used in applying the Ideal Pulley, and there is no possibility of their becoming loose or getting out of place. The saving of time in putting them in the frame is a great advantage.



EVERYBODY'S COLUMN.

The drawing instruments used by draughtsmen are very susceptible of rust. To remove the same without injury to the instruments, mix 10 parts of tin putty, 8 parts of prepared buck's-horn and 25 parts of Spirits of Wine, to a paste. Cleanse the articles with this, and finally rub with soft blotting paper.

Ed. Architect—Kindly inform me of some method by which grease spots on wall-paper caused by people leaning their heads against same, may be removed without injury to paper?

M. C.

Oil spots on wall-paper caused by persons leaning their heads against walls may be removed by making a paste of Fuller's earth and cold water and laying some gently on the surface to be cleaned, leaving it until dry, when it may be brushed off and the spot will have disappeared. It works best on plain paper but it does not succeed so well on thoroughly colored.

To Cure a Door in Wind.

Philadelphia, May 25, 1888.

To the Editors of the American Architect:

Dear Sirs,—Can any of your readers suggest, or inform me if they are cognizant of any method by which a twisted door can be made straight? In considering an answer to the above query I apprehended that correspondents will conjecture the kind and situation of the doors. The doors I have in mind when asking the question are veneered with the same kind of wood upon both sides, and have, since first they were hung, been subject to the same temperature upon each side, if there is such a thing as the possible straightening of a door out of "wind" I have no doubt it will interest a great many of your readers to know of it.

Architect.

[A door may often be taken out of wind, temporarily at least, by clamping in a frame and allowing it to remain for a time.—Eds. American Architect.]

The possibility of the prosecution of negligent plumbers for bad work leads to the inquiry, what protection have good plumbers from bad ones in the matter of competition? The bad plumber can under-bid the good one, and if complaints are well founded, there is a good deal of bad work and cheap work going on. The trade ought to have some sort of control over its members in this respect. The rigid legislation of a year or two ago has not produced all the good results then looked for. The attention of local medical and sanitary authorities has been recently called to unscientific work, and the matter will probably not be allowed to rest until some better system is devised. The plumbers themselves have as much at stake as anybody else, and the organization could wisely investigate the charges made as to inferior work done in utter disregard of sanitary requirements

Grindstones.

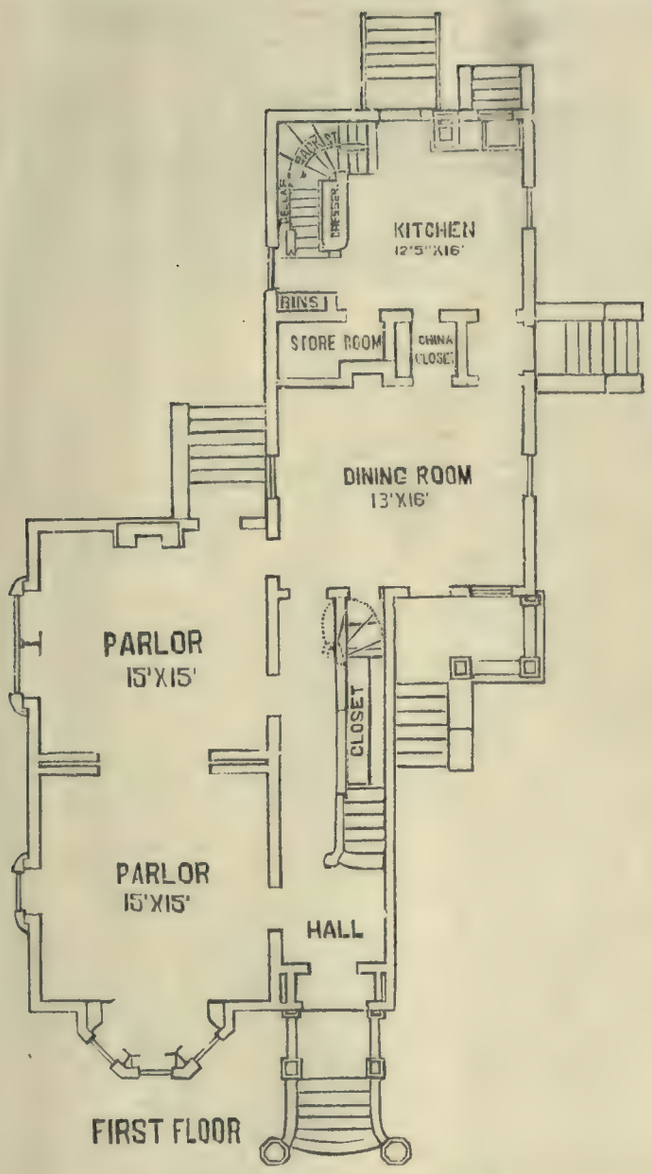
A correspondent of an Eastern paper gives a description of a visit to the Bay of Fundy and along the shores, where the grindstone quarries are located. The superintendent of the quarry says when the tide is out his men go down on the rocky shore and work out near the water. At low tide the men on the shore drill some holes in the ledge, put in powder ond blast out great pieces o f rock When the tide rises again they float out some big logs and empty barrels over where the loosened rocks are. When the water goes down again they fasten a big rock to the raft with heavy chains, so when the tide again rises it lifts up the raft and the rock with it. Then they tow it as near the shore as they can. If it is the right kind and size for a millstone, sometimes it is allowed to lie there until the workmen, with stone chisel and hammer work it into the proper shape. At other times, by means of a derrick, it is drawn out on the wharf. Then it is rolled on a track and hauled to the factory.

At the great stone factory the large piece of rock is placed on a carriage with a saw similar to the up and down saw in a mill, the rock is sawed into great slabs of the right thickness for the grindstone. The saw does not have teeth, but wears its way through the rock with the aid of sand and water, which are continually pouring on. Then the slabs are taken, a hole made in the center the edges trimmed off with a chisel, and the whole placed on a kind of lathe, turning it until it is true and the edges smooth. The rock from which the grindstones are made is a kind of sandstone, and there is a great difference in the "grit," some being coarse and some fine. Often several different degrees of "grit" are found in the same quarry. There are many quarries along the shores of the Bay of Fundy. The reason stone is taken from under water, when there are many quarries a little distance from the shore, is because the best stone comes from the bottom of the bay, where it is covered at high tide.

Deafening Floors.

Various expedients have been used and suggestions given for "deafning" floors, as it is called. We have all heard, says the *Building News*, of mortar mixed with chopped hay or straw a kind of pugging laid on rough boards, carried, by fillets fixed to the sides of joists. This sort of pugging has stood well for centuries, and is found to answer well as a deafning material. Among other substances used are dry lime rubbish, sand, lime, hair, and dry ashes, sawdust, and even cockle shells and cork chippings have been found in the floors of old houses. Any of these materials in layers of 1½ inches to 2 inches will suffice to deaden sound. Recent suggestions have been thrown out in our own ournal by correspondents. One of these is use thick felt laid below the floor boards. A French journal throws out another suggestion attributed to General Loyre, who proposes, instead of loading the floor with plaster, to fill in the space between the boarding and the plastering of ceiling with shavings which have been rendered incombustible by dipping them in a tub of thick whitewash. As it is known that soft substances inclosing air spaces form an excellent non conducting material to sound, it is thought that the shavings so treated will be found of great service, and it is said they are so incombustible as to add considerably to the fire-resisting properties of the building. Where it is desired to disinfect the space between the floor and ceiling the shavings may be saturated with chloride of zinc, or the latter may be added to the lime wash. The shavings have at least the merit of being light, which some of the materials we have named are not, and if they can be rendered non-combustible—a very essential condition—we do not doubt that this kind of deafning, so cheap and easily procured, will be largely used. Slag wool made in the form of tiles or bricks is a good material to prevent the transmission of sound, and any fibrous material formed into cellular slabs answers the purpose.

Rural Homes, Wheeler	150
Old Homes Made New	50
The Suburban Cottage	1 50
Homes for the People	2 00
Leffel's House Plans	2 00
Water Closets	1 00
Sewer Gas	1 25
Steam Engine Catechism	1 00
Builder's Guide	2 00
Cozy Homes	25
How to Paint	1 00
Cutting Tools	1 50
Universal Assistant	2 50
Rural Architecture	1 50
Wonders of Art	1 25
Grimshaw on Saws	4 00
Dwellings, Reed	3 00
Plumbing, Appliances	1 50



STAIR BUILDING,

AND IN ITS VARIOUS FORMS AND

THE NEW ONE-PLANE METHOD.

OF

HAND RAILING

BY JAMES H. MONCKTON.

A PERFECTLY NEW BOOK, PRINTED IN 1888.

The author presents in this work *for the first time*,—as applied to hand railing—the *one plane method* of drawing face-molds, a method in which only one plan of projection is required. By the plane process of drawing a face-mold, a center line of wreath may also be infolded, and fixed in its relation to the elevation of tread and rise; thus determining the length of each baluster on the curved plan and gaining a knowledge and control of the wreath's exact position not being attainable.

The experienced stair-builder will learn that this one-plane method of drawing all face-moulds—and also the manner of finding of angles with which to square wreathe prices—is simple, uniform and rapid. The student or apprentice will find that the elementary study of hand railing in the practical and novel way presented is easily acquired; he will also see that the detail instruction given in stair building from a step ladder to expensive and difficult staircases is presented in a manner to be clearly understood and quickly learned.

The Architect will find the best examples yet printed of Newells, Rails and Balusters, some of them being of exquisite design. The book is elegantly bound, printed on good paper, with illustrations far in advance of any similar publication.

Any order sent to this office will be immediately attended to and the book promptly forwarded on receipt of the price **$6.00**

A Suburban Home.

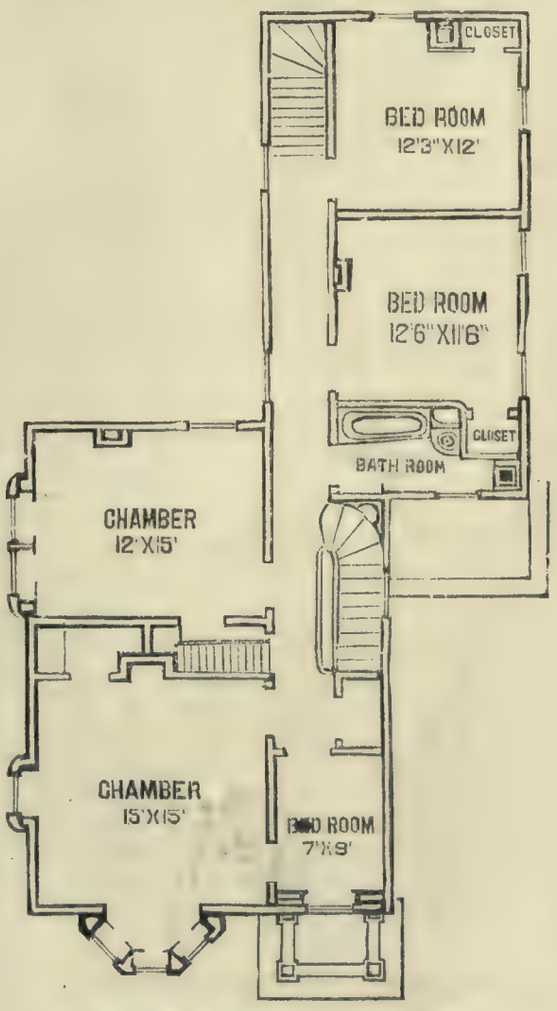
For real comfort the accompanying plans are just suited for those requiring a house containing commodious rooms with corresponding necessities. The first thing especially noticeable in the arrangement is the ease with which access can be obtained to every portion of the house. There are five entrances on the first floor, thus peculiarly adapting itself to those who may desire a convenient suburban home. Especially if the house be placed on a large lot will this feature recommend itself. The sizes of the rooms are very plainly given. The plans as presented are well worth a careful study. With a neat elevation the house can be built anywhere between $5,000 and $7,000. Any of the architects connected with the *San Francisco Chapter* can furnish the full plans, details and elevation to those pleased with the general design shown.

Weather Strips.

A great improvement is observable in the mode of insertion and the quality of the material used in the weather strips, as produced by Bradstreet, of this city. Samples may be seen at this office, with prices affixed. By sending a note to the manufactory, 1326 Ellis, an agent will call on you and explain thoroughly how to stop your windows from rattling, and to prevent dust from coming in the cracks.

Messrs. E. C. Stearns & Co., of Syracuse, N. Y., report a very gratifying increase in their export trade during the past four months, and mention that the outlook for the balance of the year is very favorable.

Among others, they mention recent shipments of the celebrated 'Silent" saw vises, wood clamps, etc., to Glasgow. Bench drills to Northampton, England, and Aspinwall, Panama, and to the United States of Colombia.



SECOND FLOOR

CITY BUILDING NEWS.

Battery, No. 915, additions in rear. Cost, $2,000.

Birch bet. Octavia and Laguna, 2-story frame. Owner, F. B. Schonstein; architect D. M. Stanley; contractor, Jacob Klein; cost, $2,325

Payments; 1st when frame is up, $580; 2nd, when brown coated, $580; 3rd, when white coated, $580; 4th, 35 days after completion, $585; signed, May 8th; filed, June 11th; limit, August 15.

Broderick bet. Eddy and Turk, Frame building. Owner, G. Dagenais; architect, J. J. Clark; contractor, R. O. Chandler; cost $2,200.

1st payment when frame is up $500; 2nd, when brown coat of mortar is on $500; 3rd, when inside finish is done $600; 4th, usual 35 days, $600.

Broadway bet. Webster and Fillmore, 2-story frame basement and attic. Owner, Mrs. O. Mau; architect, Schmidt & Shea; contractor, Wm. Pluns; cost, $17,050.

1st payment, when 1st story floor joists are laid $2,500; 2nd, when floors are laid, $2,500; 3rd, when brown coat of mortar is on and inside finish on, $2,500; 4th, when hard finished $2,500; 5th, when completed, $2,700; 6th, usual 35 days $4,350; limit, 182 days; signed, June 26th, filed, June 27th.

Broadway bet. Webster and Fillmore. Plumbing contract. Owner, Mrs. O. Mau; architect, Schmidt & Shea; contractor R. Rice; cost, $1,985.

1st payment, when rough pipes are in, $700; 2nd, when completed, $785; 3rd, usual 35 days, $500; signed, June 27th filed, June 28th.

California and Kearney, Improvements. Owner, Wm. Kleeman; architect, J. J. and T. D. Newsom; contractor, Grey & Stover; cost, $5,425;

1st payment, when wall arches are in on Kearney St. $1,000; 2nd, when wall arches are in on California St. $1,000; 3rd, when completed, $1,318; 4th, usual 35 days, $1,357; limit, 70 days; signed, June 7th; filed, June 28th; sureties, J. Wagner and T. Anderson; amount of bond, $6,000.

Capp, near 20th, 2-story frame. Owner, Abby J. Judkins; architect and contractor, W. T. Veitch; cost, $7,350.

Payments as follows: 1st, when frame is up, $1,837; 2nd, when building is enclosed, $1,837; 3rd, when white coat or hard finish is on, $1,837 4th, 35 days after completion; $1839; limit, October 1st; signed, June 4th, filed, June 15th.

Capp, nr 25th, two 2-story frames; cost, $5,000.

Clay and Mason, frame building. Owner, Claus Wreden; architect, Henry Guilfuss; contractors, Victor Hoffman; cost, $6,600; signed July 2d; filed July 5th; limit, Oct. 1st.

1st payment, when frame is up, $1 000; 2d, when building is enclosed, $1,000; 3d, when the brown coat of plastering is on and all outside yard and basement work is done, $1,000; 4th, when hard finished and inside finish is on, $1,000; 5th, completed and accepted, $950; 6th, 35 days after completion, $1,650.

Clay and Laguna, 2-story frame dwelling. Owner, John Hooper, architect, J. C. Matthews & Son; contractor, Burpee & Judson; cost, $18,280; signed, June 25th; filed, July 9th; limit, 5 months and 5 days.

Payments made at rate of 75 per cent. as work progresses; balance 35 days after completion.

Clay, nr Montgomery, additions; cost, $800.

Dehon, bet Dolores and Sanchez, 2-story frame. Owner, Mrs. L. Petsch; architect, J. Behrnds; contractor, G. Gerish; cost, $2,500.

Devisadero and Haight, frame building. Owner, Jas. J. Groom; architect, Cope, land & Banks; contractor, O. E. White; cost, $3,360.

1st payment, when brown coat of mortar is on, $2,000; 2nd payment; when building is finished; 3rd payment, 35 days after completion; limit, 94 days; signed, June 12th, filed, June, 16th; sureties, F. R. Latson; Jos. W. Beane.

Eighteenth near Dolores, frame building; Owner, Theresa Flood; architect, J. Marquis; contractor, Rountree Bros; cost, $3,423.

1st payment, when roof is on, $600; 2nd, when ready for lathers, $600; 3rd, when brown coat is on and sashes hung, $600; 4th, when hard finished and carpenter work completed, $623; 5th, usual 35 days, $1,000.

Fell St. (724) Alterations. Owner, Miss Annie McDermott; contractor F. A. Williams cost, $2,125; signed, July 5th; filed, July 5th; limit, 60 days.

When building is enclosed, $531.25, 2d, when the building is rough coated, $531.25; 3d, when completed outside and trimmed inside $531.25, 4th, when completed and accepted, $531.25

Fourth, cor Bryant, repairs to West Coast Furniture Company. Cost, $4,000.

Fourth bet. Harrison and Byrant. 3-story frame. Owner, D. Cutter and Wm. Casar; architect, M. J. Welch; contractor, Taubnan & Armstrong; cost, $8,640.

1st payment, when frame is up and rafters on, $1729; 2d, when first coat is on, $1729, 3d, when exterior finish is on, $1729, 4th, when finished and accepted $1729, 5th, 35 days after acceptance, $1729.

Limit, 90 working days; signed, July 3, 1888; filed, July 9, 1888, sureties, Geo. Watson and R. L. Taylor; amount of bonds, $8,645.

Franklin, nr Market, 2-story frame. Owner, M. J. Gorman; architect, T. J. Welsh; contractor, P. Sullivan; cost. $4,500.

Fremont nr. Market. 5-story brick building. Owners, Huntington, Hopkins & Co.; architects, Wright & Sanders; carpenter, C. C. Jerrill; cast iron work, O'Connell & Lewis; granite and stone work, Knowles & Co; total cost, about $150.000.

Geary, 1200, grading and brickwork. Owner, A. Cahn; architect, J. Marquis; contractor, J. O'Sullivan; cost, $2,100.

1st payment, when brickwork and grading are finished and refuse removed from 1208, $750; 2d, when brick and grading work is finished and refuse removed from 1204 and 12, $750; 3d, 35 days after completion and acceptance, $600; signed, July 5th; filed July 6th; limit, 46 days.

Geary nr. Octavia. Church; owner, 1st English Evangelical Lutheran Church; architect, Samuel Newson, carpenters, Moore Bros.; cost, $10,160. Signed, July 2, 1888; filed, July 9, 1888; limit, 100 working days.

1st, when Moore Bros. get their 1st payment, $1,000; 2d, when Moore Bros. get their 2d payments, $2,500; 3d, when Moore Bros. get their 3 d payment, $1,600; 4th, when Moore Bros. get their 4th payment, $900; 5th, when Moore Bros. get their 5th payment, $800; 6th, when Moore Bros. get their 6th payment, $800; 7th, 35 days after completion and acceptance, $2,560.

Geary near Octavia, 1st English Evangelical Luthern Church; architect, Samuel Newson; contractor, J. J. Conrad, bricklayer; cost, $16,500.

1st payment when J. J. Conrad gets his 2d day, $2,000; 2nd, when J. J. Conrad gets his 3p pay, $1,100; 3d, when J. J. Conrad gets his 4th pay, $500; 4th, when J. J. Conrad gets his 5th pay; $500; 5th, when J. J. Conrad gets his 6th pay, $500; 7th, 35 days after all the building is completed, $1,900; signed, July 2d, filed, July 9th; limit, 100 working days, surety, T. E. Knowles; amount of bond $3,000

Geary bet. Laguna and Buchanan, 3-story frame. Owner, David Stang; architect, John & Zimmerman; contractor, Schutt & Krecker; cost, $7,865.

Payments as follows: 1st, when frame is up, $1,500; 2nd, when floors are laid and partitions set, $1,500; 3rd, when outside finish and brown coat is on, $1,000; 4th, when hard finished and rear building completed, and inside ready for painters, $1,865; 5th; usual 35 days after completion and acceptance; limit, September 15th; signed, June 7th; filed, June 15th; sureties, A. W. Bode and C. W. Grecker.

Grove and Taylor, 2-story building. Owner. Frank Deckelman; architect, W. W Winterhalter; contractor, A. N. Nelson; cost, $2,105.

Payments; 1st, when building is enclosed, $526.25; 2nd, when brown coated, $526.25; 3rd, when the building is prime coated, $263.37; 4th; 35 days after completion, $789.38; signed, June 20th; filed, June 22d.

Golden Gate Avenue, nr Lott, 1-story frame; cost, $1,500.

Hyde and Washington, 2 story cottage. Owner, A. M. Burns; architect, J. C. Matthews & Son; contractor Knight & Littlefield; cost, 7,494;

1st payment, 75 per cent as work progresses; balance, 35 days after completion; limit, October 10th; signed, June 22nd; filed, June 25th.

Hartford, and 19th, alterations. Owner, Capt. Dahler; cost, $1,000.

Haight near Steiner, two 2-story frames. Owner, John H. Effinger; architect, H. Geilfus; contractor, T. Van Brostel; cost, $7,936,

1st payment, when frame is up, $1,000; 2nd, when floors are laid and partitions set, $1,100; 3rd, when brown coat of mortar is on, $1 100; 4th, when white coat or hard finish is on,$1,100; 5th, when completed and accepted $1,136; 6th, 35 days after completion and acceptance, $2,500; signed, June 11th; filed, June. 13th; limit, September 15th; sureties,———

Howard near 11th, frame building. Owner, Ellis Hughes; architect, A. J. Barnett; contractor, Thomas Morris; cost, $5,300.

1st payment, 75 per cent. as work progresses; balance, 35 days after oompletion; signed, 16th of June, filed, June 18th; sureties, Reese Llewellyn; amount, $3,000.

Howard bet 16th and 17th, 3-story frame. Owner, Rev. D C. Crowley; architect, Chas. Devlin; contractor, J. W. Smith; cost, $13,945.

1st payment, when first story joists are set, $750; 2nd, when roofed exclusive of tower $1,250; 3rd, when building is enclosed $1,200; 4th, when rough coat of mortar is on, $1,500; 5th, when hard finished, $2,500 6th, when ready for painting, $2,000; 7th, when completed; 8th, usual 35 days, $3,495; signed, June 19th; filed, June 20th; limit Nov. 1st; sureties, J. Coop, B. Joost; amount $10,000

Howard, bet 23d and 24th, 2-story frame. Owner, F. C. Hornung; architect, Smith & Shea; contractors, Martin & McGuire; cost, $1,292.

1st payment, when frame is up, $792; 2d payment, when rough coat of mortar is on, rough plumbing work done and outside primed, $800; 3d, when completed and accepted, $800; 4th, usual 35 days; limit, 80 days; signed June 28, 1888; filed, June 29, 1888.

Jackson near Scott, 1-story frame and basement brick. Owner, Jos. Haber; architect, Pississ and Moore; contractor, A. McElroy; cost, $10,300.

Payments as follows 1st, when brick work is done, $1,200; 2nd, when frame is up, $1,500; 3rd, when first coat of mortar is on, $1,500; 4th, when hard finish is on, $1,500; 5th, when ready for painters, $1,500; 6th, when complete and accepted, $500; 7th, 35 days after completion, $2,000; limit, 120 working days; signed, June 15th, filed, June 16th; sureties, B. Joost and B. Thyarks.

Jackson nr. Pierce. Frame dwelling; owner, R. Bruce, architect, W. F. Smith; contractor, Kern; cost, $14,000.

Jackson nr. Pierce. Frame dwelling; owner, Mrs. H. Van Wyck; architect, W. F. Smith; contractor, Kern; cost, $15,000.

Jessie, cor Ecker, 4-story brick. Owner, O. D. Baldwin; architect, S. Newsom; day work; cost, $20,000.

Kearny, cor Jackson, brick additions to hotel building. Cost, $3,000.

Lyon bet. Sutter and Post, 1-story frame. Owner, C. H. Hildebrand; architect and builder, G. G. Gelispie; cost, $1,815.

1st payment, when frame is up, $450; 2nd, when brown coat of mortar is on, $450; 3rd, when completed, $450; 4th, usual 35 days, $465; limit, 75 days; signed, June 21st; filed, June 21st.

Mission, No. 556, additions. Owners, Dal ziel & Moller; cost, $1,000.

Market bet. 6th and 7th, 5-story brick. Owner, Jos. Rosenthal; architect, Salfield & Kohlberg; carpenter contractor, T. H. Day; cost, $23,950.

1st payment, 75 per cent. as work progresses each month; balance, 35 days after completion; limit, 3 months; signed, June 18th; filed, June, 18, 1888; sureties, C. S. Holmes and B. Joost; amount, $8,000.

Market bet. 6th and 7th, 5-story brick. Owner, Jos. Rosenthal; architect, Salfield & Kohlberg; contractor, Riley & Loane; brick mason; cost, $38,000.

1st payment. when ready for 1st floor joists, $5,000; 2nd, when ready for 2nd joists $6,000; 3rd, when ready for 4th story floor joist, $8,000; 4th when ready for 6th story floor joist, $7,000; 5th, when completed and accepted, $2,500; 6th, 35 days after completion, $9,500; limit, April 1, 1889; signed, June 14th; filed, June 18th; sureties, H. S. Loane and M. O'Connell; amount, $1,500.

Market bet. 6th and 7th 5-story brick. Owner, Jos. Rosenthal; architect, Salfield & Kohlberg; contractor, Albert Weinert; statuary; cost, $3,654.

1st payment, when clay models for portico accepted, $250; 2nd, all models completed, $500; 3rd, when Atlas is completed, $500; 4th, when models in plaster Paris, $300; 5th, side figures of portico done, $500; 6th, when all are in place $634; 7th, 35 days as usual, $950; signed March 8th; filed, June 18th.

Market bet. 6th and 7th, Wrought Iron Work. Owner, Jos. Rosenthal; architect, Salfield & Kohlberg; contractor, Sims & Morris; cost, 4,150.

75 per cent. as work progresses at end of each month; balance, 35 days as usual; signed, June 10th; filed June 18th.

Market bet. 6th and 7th, Cast Iron Work. Jos. Rosenthal; architect, Salfield & Kohlberg; contractor, Reese Llewellyn; cost, $2,750.

1st payment, when basement columns are accepted, $600;2nd, when 1st story columns are accepted $1,400; balance $750, usual 35 days; signed, June 10th; filed, June 18th

Market and Davis, additions. Owner, Mrs. M. Coleman; architects, Smith & Shea; contractor, Chas. H. Ackerson; cost, $3,808.

Payments are made at the rate of 75 per cent as work progresses; balance, usual 35 days; signed June 28, 1888; filed June 29, 1888.

Market, bet 16th and 17th, 1-story frame. Owner, Rothermel; contractor, O. E. White; cost, $3,000.

Market, bet 16th and 17th, 3-story frame. Owner and builder, W. Kahn; cost $7,000.

Mission bet 18th and 19th, 3-story frame. Owner, John Haman; architect, Wm. Schrof; contractor, George Gale and J. C. Mires; cost, $6,330; limit, October 20th; signed, June 25th filed, July 5th.

1st payment, when frame is up, rustic and roof boards on and chimneys built, $1,630; 2d, when all window frames are set, the brown coat of mortar on and main portion of the outside finish and roof is on, $1,535; 3d, when hard finish is on, the interior and exterior finish is all up, sashes hung and 1st coat of paint is on, $1,535; 4th, balance 35 days after completion and acceptance; sureties, John Gale and A. Powell.

McAllister and Gough, alterations. Owner, Aaron Gorfinkel; architect, Salfield &, Kohlberg; contractor, Fuchs and Bucher' cost, $3,238.

1st payment, when raised and studding set, $800; 2d, when brown coat is on, $838; 3d, when completed, $800; 4th, 35 days after completion, $800; limit, 65 days; signed, June 18th; filed, June 21st.

Natoma bet. 1st and 2nd, alterations. Owner, J. M. McElroy, Jr; architect, J. J. Clark; contractor, J. D. McDonald; cost, $1,195.

1st payment, when building is raised and enclosed, $250; 2d payment, when rough coat of mortar is on, $250; 3d, when inside finish is on, $250; balance, 35 days, $445; limit, 30 days; signed, June 20th; filed, June 21st.

Nineteenth, nr Hartford, alterations to two buildings. Owner, Mrs. Ward; cost, $1,500.

Pacific, bet Buchannan and Webster, frame building. Owner, Henry Falkenstein and wife; architect, S. Newsom; contractor S. C. Buzelle; cost, $7,300; signed, July 3d; filed July 5th; limit, 120 working days.

1st payment, when graded and foundation is in, $600; 2d, when frame is up and chimneys built, $800; 3d, when inside is ready for lathing and cornice and roof is on, $1,200; 4th, when outside is finished and primed and brown mortar is on, $1,000; 5th, when hard finished, $900; 6th, when works are all done, $975; 7th, 35 days after completion, $1,825; sureties, S. C. Buzelle and J. F. Kennedy; amount of bond, $2,000.

Post near Octavia, 2-story frame. Owner S. G. Mish and wife; architect, B. McDougall and son; contractor, J. R. McLean; cost $5,755; signed, June 30th; filed, July 5th; limit, October, 15th.

1st when the grading is finished, brick walls for the house and area walls are laid and chimneys to top of them $500; 2nd, frame up roof boarded and rustic on, $800; 3rd, when roof is tinned, floor laid, gas and water pipe laid and window frames set and brown coat of mortar is on the walls and ceiling $955; 4th, when hard finished, the door jamb set, sash glazed and hung, inside stairs up front fence wall built front steps up, outside mill work complete and the outside primed, $1,000; 5th, when completed and accepted, $1,000, 6th, 35 days after completion and acceptance, $1,500; amount of bond, $4,000; sureties, J. S. Doe and John T. Grant.

Prospect Ave., junction with Lundy's Lane, five 1-story frame. Contractor, Frichette; cost, $6,000:

Prospect Ave., nr California Ave., 1-story frame. Cost, $1,500.

Sutter and Lyon, 2-story frame; Owner, Catharine Brady; architect, Schmidt & Shea; contractor, A. Norton; cost, $3,551.

1st payment when building is enclosed, $600; 2d, when brown coat is on, $665; 3d, when white coat is on, $665; 4th when accepted and completed $730; 5th, usual 35 days, $891.25; limit, 100 days; signed, June 20th; filed, June 23d.

Scott near Walla, frame building. Owner, H. H. W. Stroecker; architect, H. Geilfuss; contractor, Fraser & Foster; cost, $4973.

1st payment, when frame is up, $800; 2d, when floors are laid and partitions set, $700; 3d, when rough or brown coat is on, $800; 4th, when inside finish is on, $728; 5th, when completed, $700; 6th, usual 35 days, $1,245; limit 1st October; signed, June 12th, filed, Jnne 19th.

Second, cor Stevenson, 5-story brick. Owner, T. E. Cunningham; architects, Percy & Hamilton; contractor, J. R. Wilcox; brick, McGowin & Butler; cast iron, McCormick Bros.; concrete, E. L. Ransome; plumbing, Duffy Bros.; plastering, Fisher; total cost, $100,000.

Sacramento and Pierce, two 2-story frame building. Owner, C. J. Wingerter, architects, Schmidt and Shea; contractor, Wm. Pluns; cost, $12,720.

1st payment, when rough frame is up, $2,320; 2d, when brown coated, $2,400; 3d, when hard finished, $2,400; 4th, when completed and accepted, $2,400; 5th, 35 days after completion, $3,200; signed July 6th; filed July 7th; limit, Oct. 20th; surety, B. Joost.

Seventeenth, nr Collinswood, additions Owner, J. R. Drew; cost, $1,500.

Seventeenth, nr Diamond, additions. Owner, G. Monroe; cost, $2,500.

Seventeenth, nr Sanchez, 1-story and basement frame. Owner, Gilfoy; contractor, A. A. Willins; cost, $3,000.

Twenty-Fifth, nr Treat Ave., 1-story frame. cost, $1,800.

Turk, No. 116, alterations. Owner, R. Finking; contractor, A. Miller; cost, $1,200.

Thirteenth bet Isis and Folsom, 2-story frame. Owner, Mrs. Mary T. Campbell; architect, M. J. Welsh; contractor, C. Coady; cost, $2,650.

$600 when frame is up; 2d, $600 when 1st coat of mortar is on; 3d, $600 when completed; 4th, usual 35 days; limit, 70 days; signed, June 20th; filed June 22nd.,

Twentieth, bet Guerrero and Dolores, millwork contract. Owner, J. A. Anderson; architects, Pierce & Kidd; contractors, Towle & Broadwell; cost, $1,017.

1st payment, when exterior millwork is done and delivered on premises, $381.00; 2d, when entire millwork is finished, completed and accepted, $381 00; 3d, balance, 35 days after completion; signed May 5th; filed July 6th.

Turk, near Larkin, a frame building. Owner, Mrs. A. Baily; architect, F. J. Welsh; contractor, R. O. Davis; cost, $4,134.

1st payment, when frame is up, $1,000; 2d, when brown mortar is on, $1,000; 3d, when finished and accepted, $1,000; 4th, balance, 35 days after acceptance, $1,134. Limit, 90 days; signed July 2d; filed July 7th; surety, W. C. Meeker; amount of bond, $4,000.

Union and Leavenworth, Plumbing contract. Owner, G. Rocca; architect, Wm. Mooser; contractor, Samuel Ickleheimer and Bro. cost, $1,625

1st payment, 75 per cent. as work progresses; 2nd and balance, 35 days after completion; limit, 90 days; signed, June 5th; filed, June 20th.

Van Ness Ave. and Jackson St. owner, F. A. Frank; architect, C. Day; contractor, Jas. Kelly; cost, $22,900

1st payment, when frame is built, sheathed and roof ready for shingles, $4,000; 2d, when chimneys built and brown coat of mortar is on all walls and ceilings, $5,000; 3d, when hard finished, $3,500; 4th, when the stairs are built and doors and windows hung, and inside ready for painters, $4,675; balance usual 35 days after final completion; signed, June 20th; filed, July 9th; limit, Feb. 25, 1889.

Valencia, bet 25th and 26th, improvements. Cost, $6,000.

Webster, bet Waller Hermann, 1-story and basement frame. Owner, Henry Smith; architect, John & Zimmerman; contractors, Rountree Bros; cost, $1,950.

1st payment when framed, $500; 2d payment, when rough coat of mortar is on, $500; 3d, when completed, $450; 4th, the usual 35 days, $500; limit, September 8, 1888; signed June 25, 1888; filed June 30, 1888; surety, W. A. Meeker.

COUNTRY BUILDING NEWS.

LOS ANGELES.

The erection of buildings in Los Angeles is still one of the things which attracts the visitor's notice when he takes a tour of the city, and there seems to be no cessation to the activity in this respect, which has been so marked during the past year. Scarcely a day goes past but workmen commence on new contracts. Excavating work has been begun on the site of Brodie's store, and a new edifice will go up thereon. This is another addition to a large list hitherto published. The demolition of the one-story brick, southeast corner of Fort and First, makes way for a three-story brick by Judge Reddick, which will be an ornament to that part of the city. The W. C. T. U. Temple, on the corner of Fort and Temple streets is beginning to show the people that the ladies are providing an ornament to our city. The terra-cotta finish is a distinctive feature of the edifice, and it speaks well for the taste of the architect.

The court house is going ahead more rapidly. It will have a main frontage on Fort street of 180 feet, with the same dimensions on New High. The Temple street front is 150 feet, and the south end, which comes to within a few feet of the jail, 140 feet also. The main entrance will be from Fort street, but access is had from Temple and New High also. The south end entrance will be for convenience of communication with the jail. The building is two stories and a 17-foot basement; the basement being all above the surface. The basement is to be of granite, quarried near Riverside. The upper stories will be of marble from a quarry near Victor station, San Bernardino county, trimmed with a reddish sandstone from Flagstaff, Arizona. The trimmings will be largely ornamented by the hand of skill.

The Crocker block, on Fort street, is going ahead rapidly, and will be ready for occupancy before the rain commence. The Y. M. C. A. building, on the opposite side of the street, is now being pushed forward rapidly.

The Simpson Tabernacle is progressing quite rapidly, and will be an ornament to the corner of Hope and Seventh streets. The site of the tabernacle is on Hope near Seventh, and the lot fronts 134 feet on Hope street and is 162 feet deep. Bricks to the number of 600,000 will be on the ground in the course of three weeks, and all other building material will soon be ready for pushing the splendid work forward to completion. The church will be furnished with a pipe-organ twice as large as any now in the city, and will cost about $8000. The total cost of the building and lot will be near $70,000. Adjoining the church is to be a handsome brick parsonage.

LOS BERROS.

The following are some of the improvements: Mr. Eale, a fine residence, cost from from $1000 to $1200; Mr. Persing's, another fine residence, cost from $1200 to $1500: Mr. Binkley's, a neat cottage, cost about $1000; Mr. Barrot, a fine two-story building, intended for a hotel, cost $1500, Mr. Waterman contractor; Mr. Strowbridge, a story and a half house, cost about $408; Mr. Kenny, a two-story building for store and post office, costing from $1500 to $2000; Mr. Robinson has just laid the foundation of a house to cost about $1200.—*A. G. Herald.*

SAN JOSE.

The Southern Pacific Company is building a second story to the central part of their main warehouse at the San Pedro street depot to be used as a general freight office. The new office will be directly over the old one, and will be a model of convenience and comfort.

Plans have also been prepared for an elegant depot at San Carlos, bet. Belmont and Redwood City, which is to be built from sand-stone from the Goodrich quarry.

SAN BERNARDINO.

I. R. Brunz will erect a brick building.

OAKLAND AND ALAMEDA.

G. M. Flick has contracted with M. A. Lent to build for the latter a residence on the south side of East Sixteenth street, 100 feet east of Eighth avenue, for $4,000. It is to be two-story frame building. Payments are to be made in installments of $1,000.

W. W. Wilkens is having a residence built in North Oakland. Nelson & Nickerson are the contractors. The cost will be $2,860. The building is to be finished July 17th. W. Kirk is the architect.

A. W. Pattiani & Co. are building for E. C. Sessions a cottage on Twenty-fourth avenue, near East Twentieth street, in the Sessions tracts, East Oakland. The contract price was $1040. The building is a modern Queen Anne cottage.

The Sweedish church on West street, near Twelfth, has been completed.

Stephen Watts has just completed for his own use a very handsome cottage on Delger street, near San Pablo avenue. It cost $4000.

ALAMEDA BUILDING.

G. Laver is building for C. Winter a one-story cottage on Pacific avenue, Alameda. The cost will be $1230, and the building will be completed by August 1. A. R. Denke is the architect.

J. J. Denschl is building a frame house on Charles street, near Railroad avenue. The contract price is $3250. The architects are F. X. Fisher and V. L. Fortin.

G. A. Flash, an artist of considerable fame, is building on Regent street, south of San Jose avenue. The building is being arranged so as to allow for a large studio and art gallery for the artistic owner.

On Madison and Ninth streets Walter Mathews is remodeling the residence of Col. L. L. Bromwell, and putting $8,000 worth of new work into an already handsome house. This work is nearly completed.

The residence of Everett Grimes on East Fourteenth street near Sixth avenue, has been completed, at a cost of $12,000.

Plans have been drawn for a residence for F. W. Henshaw, on the corner of Fifth avenue and East Twentieth street, to cost the same amount of money, The contract will be let very soon.

Mr. Gale's residence at the corner of Central avenue and Regent street, Alameda, is about completed.

Pattiani & Co. have begun for M. E. and E. Schieffeln two frame cottages on Alameda avenue and Lafayette avenue, Alameda. The cost will be about $1300 each. They will be very pretty, comfortable little buildings.

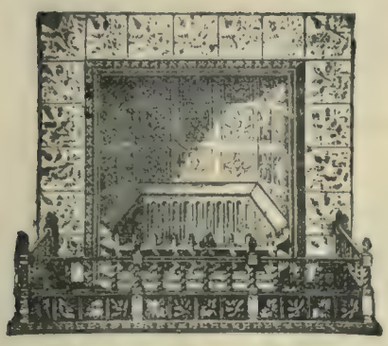
Bids for the construction of the Chapin block, on Second street, Livermore, directly north of the Boston block, were opened in Architect Boone's office on Monday, and the contract was awarded to S. E. Clough on his bid of $12,500. The block will be of wood, two stories high.

It is proposed to build a school-house, to cost about $15,000, at Golden Gate, otherwise known as Klinknerville. William Kirke is the architect.

W. H. Wellbye will build for N. J. Ashton a handsome two-story frame residence on Magnolia street, near Fourteenth street, Oakland. The house will be Queen Anne style in architecture, and will cost $2,200. A stable will be built in the rear, and when completed this will be one of the finest residences in the neighborhood.

RIVERSIDE.

F. W. Haskell is building a two-story residence on Ninth street in White's addition. It will have ten rooms, is built of good brick and will cost $2000.



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301, 303, 305 BRANCH ST. PHILADELPHIA.

ESTABLISHED 1810 SEVENTY NINTH YEAR.

New Postoffice Building at Fresno.

From plans furnished by Architect J. W. Bones, and accepted by Judge Winchell, we are enabled to give a general idea of the new postoffice building to be erected as soon as possible on the corner of J and Fresno streets. The building will be three stories high and built entirely of brick, having a frontage of fifty feet on J street and ninety-six on Fresno. It will be of the Romanesque style of architecture, surmounted by a Gothic pediment, and will be finished in terra cotta on the exterior. The building will contain in all eighty windows, those fronting on J street being eighty in number, two triple and two mullion, on each of the upper floor. All of the windows fronting on J street will be of the Eastlake style of architecture and surmounted by beautiful terra cotta work, which, when completed, will give the building a very attractive appearance. The whole of the first floor will be devoted to the use of the postoffice, and will be a model of beauty and convenience. The upper floors will be divided into thirty-nine rooms for offices and living purposes. All of the outside rooms will be supplied with open fireplaces, and will be 13x15 each. Work on this building will be commenced at once, and when finished it will undoubtedly be one of the finest business blocks in the city.

LIVERMORE.

Hunter & Taylor are building a large barn for J. O'Brien.

E. Fried will shortly build a warehouse near his new store.

Leonard Beck is making improvements on his property.

SAN JACINTO.

H. I. Hewitt will shortly commence the erection of a warehouse.

BERKELEY.

J. Barron intends erecting a fine dwelling on his property.

AUBURN.

J. Clark is putting up a two story dwelling house.

PLEASANT VALLEY.

Our regular correspondent—T. D. Ball—sends us the following in regard to building news up his way. Pleasant Valley extends from Putah Creek to Vacaville and for a distance of about 12 miles is one continuous line of orchards. It will soon be dotted with fine residences. The work now in progress embraces a large barn for Mr. Thurber and extra building for a wagon house. J. N. Plesants is also having a barn built. In both cases T. D. Ball is superintending the work.

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NEW ORLEANS LOUISIANA: NOVEMBER 10, 1885. MARCH 31, 1886.

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In acknowledgement of meritorious display of PRESSED BRICK, in the Collective Exhibit of California.

In acknowledgement of which the Signature of the proper Officials and the seal of the North Central and South American Expositions are hereto attached.

[ATTEST]
CHARLES TURRILL,
Commissioner.

I. M. W. COMICO,
President.

B. D. WOOD.
Director General.

THOS. WOODWARD,
Chairman Committee on Awards

SAN DIEGO, CAL., FEBRUARY, 18, 1888.

T. W. PETERSEN & CO.

DEAR SIRS:

I send you by mail, Diploma awarded you by the North, Central and South American Exposition, for your display under my charge.

Kindly acknowledge receipt in enclosed envelope.

Very Respectfully

CHAS. B. TURRILL.

Commissioner for California; North, Central and South American Exposition, and Manager Southern Pacific Company's Display.

The above diploma was given to the firm mentioned, for the best display of PRESSED BRICK, at an Exhibition that attracted world wide attention. Mr. PETERSEN has made a special study of Kiln burning, so as to have all the bricks of an even color. We have seen car-loads of bricks, delivered in this City, and the uniform color pervading the entire lot was such as to attract more than ordinary attention from those around. MR. PETERSEN absolutely guarantees that every brick is perfect. If edges or corners are broken, he does not allow them to leave the depot. Any one ordering brick from above firm, can rest at that they will obtain the very best Brick there is made in California. San Francisco address is Townsend St. between 6th and 7th. San Jose, P. O. Box 187.

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Pine, Rough, per M feet	$22 50
Pine, Rough, No. 2	18 50
Pine, Rough, 41 to 50 feet lengths	23 50
Pine, Rough, 51 to 60 feet lengths	24 50
Pine, Rough, 61 to 70 feet lengths	25 50
Pine, Selected	26 50
Pine, Clear	33 50
Pine, Fire Wood	10 00
T. & G. Flooring, 1x6	35 00
T. & G. Flooring, 1¼x6, 1x4 1¼x4 and narrower	40 00
T. & G. Flooring, No. 2	29 50
Stepping	45 00
Stepping, No. 2	32 50
Redwood, Rough	22 50
Redwood, Rough, No. 2	18 50
Redwood, Surfaced	37 50
Redwood, T. & G. 6 in., 12 feet and over	34 00
Redwood, T. & G. 6 in., 7 to 11 feet	27 00
Redwood, T. & G. 6 in., under 7 feet	24 00
Redwood, Rustic	38 50
Redwood, Rustic, No. 2	32 50
Redwood, T. & G. Beaded, 12 feet and over	37 50
Redwood, T. & G. Beaded, 7 to 11 feet	28 00
Redwood, T. & G, Beaded, under 7 feet	25 00
Redwood, Siding, ½ in	25 00
Pickets, Fancy	26 00
Pickets, Rough Pointed	20 00
Pickets, Rough Square	18 00
Shingles	2 50
Laths, 1½	4 00
Laths, 1½	4 50
Furring, 1x2, per lineal foot	01
Battens, ½x3, per lineal foot	01
Nails, for 10 d	2 90
Lime, per bbl	1 40
Cement per bbl., according to brand	$2 50 to 4 50
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Linseed oil, 50 cents per gallon in bbl, 2½ cent additional for boiled.

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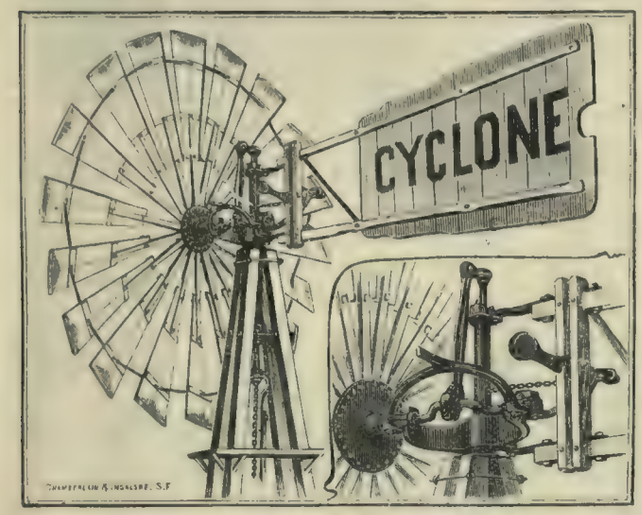

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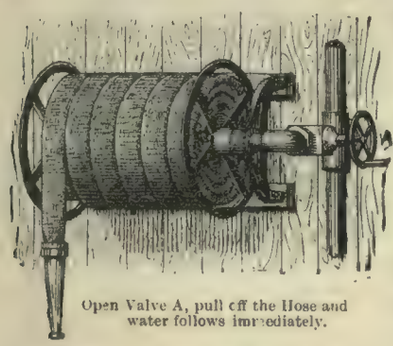

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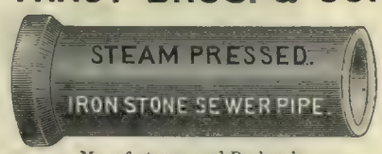

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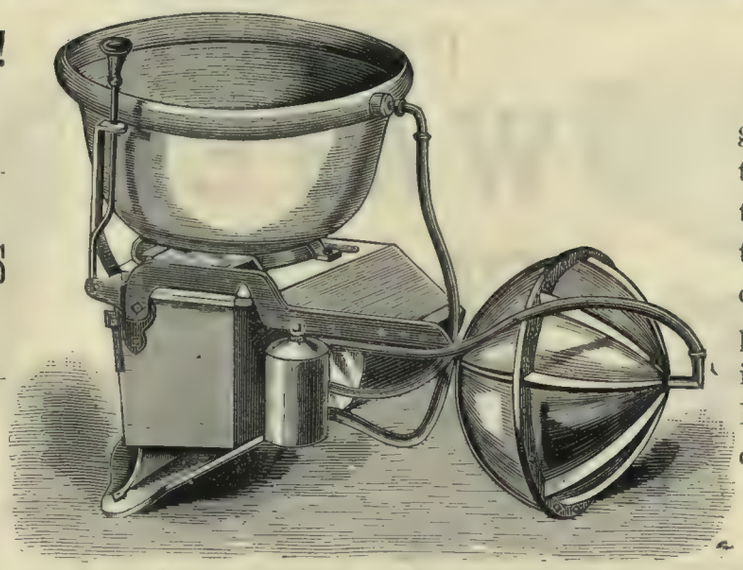

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This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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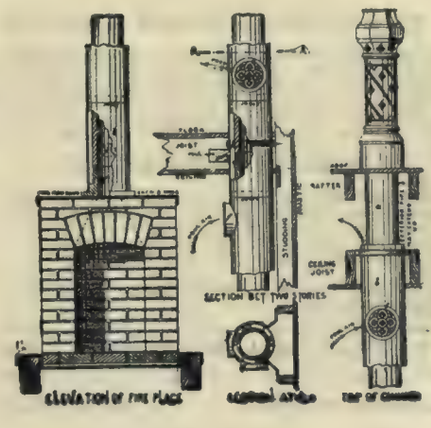

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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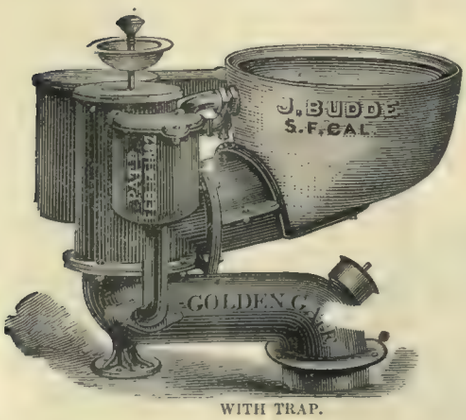
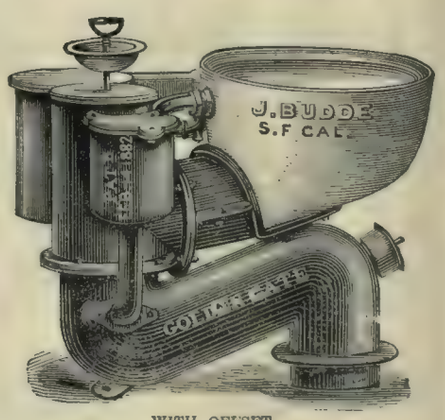


WITH TRAP.

The Golden Gate Plug Closet.



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This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

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2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

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Side View, Combination Hopper

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

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This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval basin fastened to the cover by brass clamps and bolts. No breaking of putty joints required to renew a pan. The loosening of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

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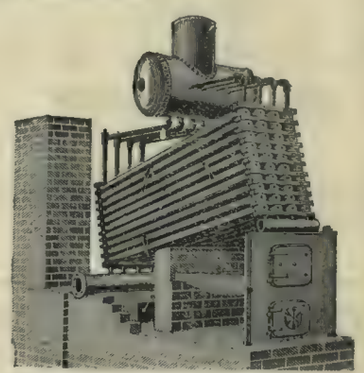

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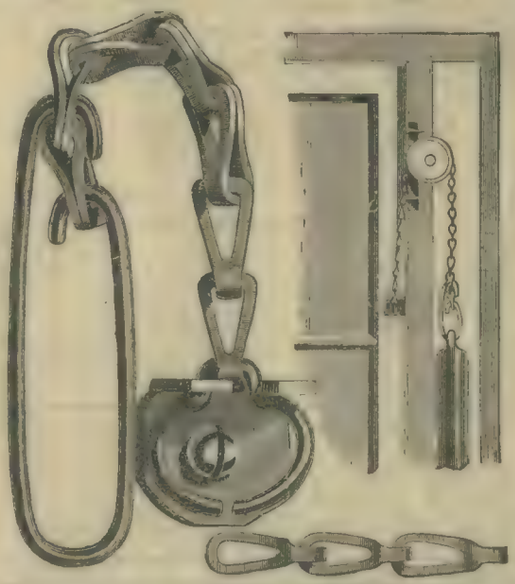

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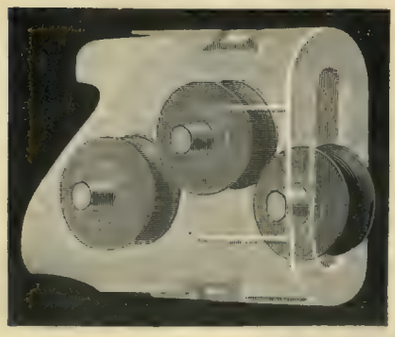

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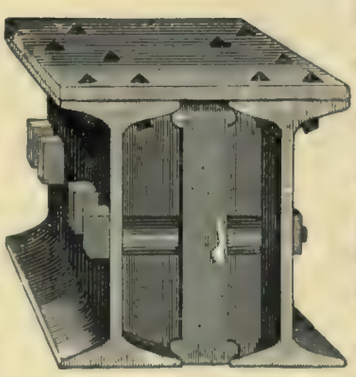

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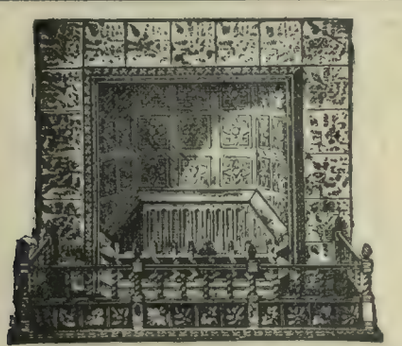

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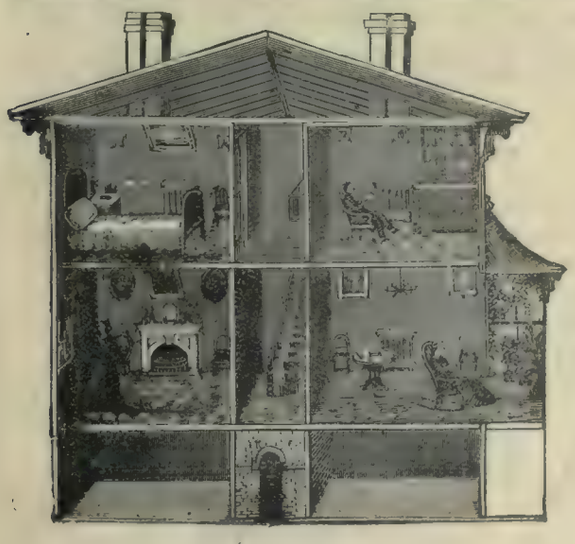

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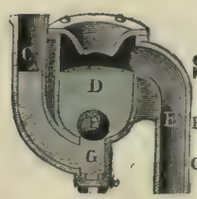

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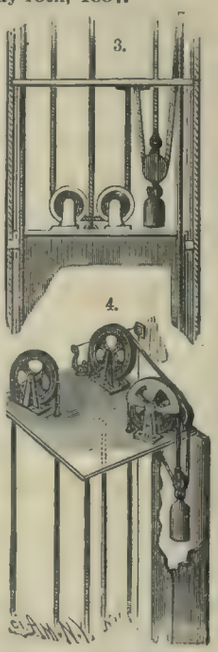

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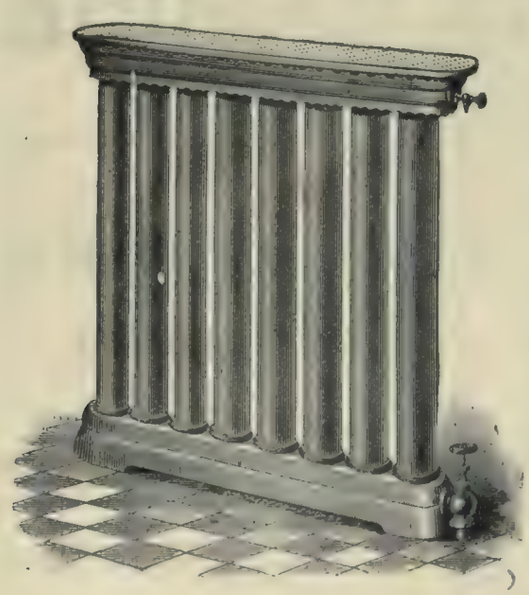

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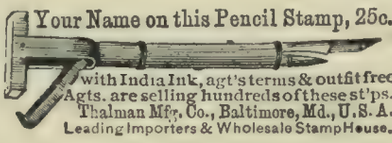

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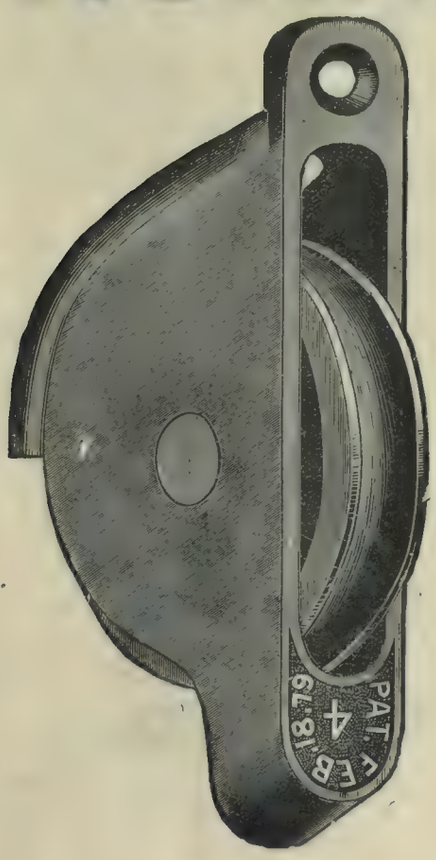

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The California Architect and Building News

Entered at Post-office, San Francisco, as Second-class Mail Matter. Established January, 1879.

Volume IX — Number 9

THE

California Architect & Building News.

Established January, 1879.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO., No. 240 Montgomry Street, Rooms 11, 12 and 13.

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SAN FRANCISCO, SEPT. 15, 1888.

FOUR EXTRA PAGES!

WE have been compelled to add **FOUR EXTRA PAGES.** It has been evident to any one reading this Journal, that for some time past its columns have been overcrowded. Last issue "ads" were refused, as our arrangements had not been perfected to increase the number of pages, and we would not draw on our reading matter for room. In a measure we have relieved the pressure and with this number we present a Journal that will compare favorably with any printed in the United States.

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The Price of Lumber Question.

DURING the current year, the price of lumber in California has been a prominent issue as between owners contemplating building improvements, and the manufacturers of building materials. Our worthy contemporary, *Wood and Iron*, speaking from the lumbermans' stand point, in very kindly terms, says in a late issue, that this journal "still continues off in its views of the price of lumber," etc. We do not think so, and until convinced of error, we shall remain off.

We admit the argument, "that the price of lumber in a building, cuts but a small figure in its total cost." This fact we have times without number, urged when discussing the question personally with owners. There is more apparent than real objection upon this point, as a building requiring 50,000 feet of lumber and costing ten or fifty thousand dollars is increased in total cost but fifty dollars with a rise of one dollar per thousand feet, and no more than two hundred and fifty dollars, with five dollars per 1,000 added to what our lumbermen consider a too low price.

But the difficulty is, that consumers are not convinced that the higher rates prevailing until recently, were a commercial equity or necessity. Owners generally understand that lumber has been sold at rates far below those attained by the increased schedule of prices, and they do not trouble themselves to learn the reason why. Those who have in times past bought at twelve, thirteen and fourteen dollars per 1,000, are thereby led to the conclusion that the very intelligent class of men who handle and produce the great building commodity—lumber, are the parties to know just what lumber is worth in the market; and it being a staple, which should be as steady as a clock dial, owners understand abatements however low, when fixed by those controling the interest, as the true indication of value. They do not look for, nor care anything about the causes of depressed markets, nor whether such depression is the result of dealers slaughtering each other, waging a war of competition among themselves or otherwise. The consumer does not ask why it is so, but accepts the advantages of low prices as a fact possible, and unwillingly submits to a rise, when neither flood, famine, nor any recognized sufficient or feasible event has transpired to make it reasonably clear that advance is legitimate. And to make this view of the case stronger, it must not be overlooked, that when three or four years ago, lumber was sold for ten dollars per thousand less then the figures reached by the high price schedule of recent date, a very large number of buildings were erected, and the demand fully equal, and sometimes in excess of supply, not because lumber was cheap, but from the fact that so many considered it wise policy to build, from a remunerative, paying point of view. There was a steady demand for more buildings of almost any class, and as many would have been erected those years, had the lumber market not been broken all to pieces by the deliberate acts of the lumber interest men in waging a war of business extermination among themselves. Had fair, steady, reasonable prices prevailed, consumers would have been satisfied and accepted the condition as a proper thing. But when those in interest found that the producers of their own will and caprice drove home the steel gad of unwise competition, and toppled prices down to the verge of business ruin—and which did bring financial ruin to some—they accepted the advantage thus offered, and recent clamor about high prices resulted more from the course pursued by the manufacturers than any other.

It is always easier to maintain fair values than to regain and stimulate them after demoralization. And it is right here where the growl comes in The lumbermen having provided and dished out, at former times and often, rich repasts in cheap lumber, owners have accepted the hospitalities set before them, and naturally feel sore when the door is either by degrees and quietly closed or slammed in their faces, and their fears aggravated by an extra charge for admission.

There was no "flagrant error" in our statement, that the decline in building was attributable to the cost of lumber. We should not have so stated, had we not been fully convinced that it was true. People often "cut off their noses to spite their faces," even in a building sense, but many will submit to almost any amount of loss, rather then consent to what they deem an

over-exaction. It is certainly not extra-wise in owners to allow well located real estate to lie unimproved year after year, because one or two per cent of total cost stands in the way. It seems to us "penny wise and pound foolish" for an owner to in cur months or years of loss in rentals and income, simply because to improve may cost an extra sum less than the amount of taxes which must be paid each year on the unimproved property. But still this is the disposition of many, and even wealthy men been heard to say, "I will not improve at present rates of building materials, but wait for another break in prices"—not because the intrinsic value thereof may not be equal to the price demanded, but because there have been breaks, and breaks being possible at any time, they prefer to wait for them, as generous dispensations from the hands of those who have, and alone can inaugurate them. The force of argument comes in this line of thought, and if material producers would make their bullwarks firm against these irregularities, the public would in time accept the conditions as inevitable, and pay fair prices right along. "Supply and demand regulates," is all very well as a theory, but singular as it may appear, it is none the less true, that the price of lumber has at times been raised at periods when a decline in demand was unmistakably evident, and but little work preparing in architects' offices. Demand present, or prospective, in such cases has been anything else but justifying, and if the rule applied always, the natural tendency of prices would be downward and not accumulative.

The "stoppage of mills," "using up forests, etc," are all questions of serious import, but the true cause of outcry is found in the statements contained in this article.

The New City Hall Tower.

THIS important feature of San Francisco—"New City Hall," is and has for months or longer time, been a bone of contention among those directly—officially—concerned in determining its height, style, proportions—and naturally if not necessarily—involving every specialty connected with its design and construction, from foundation to the finial upon its loftiest apex.

The main question in issue, and in reference to which there are diversities of views and opinions, both in the Board of Commissioners, and the mind of the generous public who will be required in due time to furnish the necessary funds, is that of altitude; whether the mythical God—Mercury—with his outstretched wand surmounting the uppermost height of the construction, shall be permitted to stand upon a base 400 feet or more above the heads of the living masses below, or be limited to a standing point 250 feet more or less above the base of the construction.

Beyond such individual consultation and advice as each may have sought, the gentlemen constituting the City Hall Commission, have—until recently handled the questions arising within their official circle—yet neither claiming any special qualifications as scientific, architectural or mechanical experts, to render judgment, or decide the, in fact, most momentous, material and important issues and involvments, essential or contingent, attaching to the construction of the tower that is to be; the consummation of which must and will stand for generations if not for centuries, as a monument to the good and wise, or the mistaken judgment of the men into whose hands as a committee, and upon whom must rest for all times, the responsibility of fixing the height, approving the style and authorizing its construction.

It would be ungenerous to surmise that either of the honorable gentlemen, composing the Commission, have been or are influenced or controlled in their action, by any other motive than the public welfare. While his Honor Mayor Pond, Auditor Strother and Attorney Flournoy may each—as is his personal right and privilege—have preferences as to the parties who shall perform the various required services, especially in the all important matter of preparing the plans and determining principles and qualities of beauty, height, practical construction, and the many features and delineations which are never fully understood until practically executed, it would be terrible indeed, if true, if such individual preferences were allowed for one moment to intervene in a matter so gigantic as the erection of a tower to stand for all time as the city's most conspicuous monument.

An evidence that the Commissioners are both willing and anxious to arrive at the wisest and best conclusion, is exemplified by the fact that they have so far waived their official rights and prerogatives, and the exercise of arbitrary determination of all questions under their control, by inviting the leading civil engineers of the city, and S. F. Chapter of Architects, of the A. I. A., to examine and express judgment as to the various features of the new tower, from a professional, scientific and practical standpoint—all of which, however, is beyond question a very great annoyance to Mr. Laver, the City Hall architect, whose responsibilities unhampered by any extraneous interruption are great, and much more so when fettered by checks and interferences, which prevent the free exercise of his best judgment. Whether the report of the Committee of Architects will remove existing difficulties, remains to be seen.

AN IMPORTANT MEETING.

San Francisco Chapter American Institute of Architects.

THE regular monthly meeting of the Chapter was held in the rooms of the Art Association on September 7th, G. H. Sanders, President, in the chair.

The following members were present: G. H. Sanders, John Wright, J. J. Clark, J. E. Wolfe, W. J. Cuthbertson, O. Everett, H. T. Bestor, J. Gash, J. D. Cebrian, B. E. Henricksen, J. M. Curtis, W. P. Moore, A. Pissis and G. H. Wolfe. Several students were also in attendance.

Edward Kollofrath was unanimously elected a member as Fellow.

Propositions for membership were received from Wm. Patton, G. W. Percy and John Newsom. Referred to Committees.

It being the annual meeting, the election of officers next took place for the ensuing term. The result was as follows:

President, (re-elected) G. H. Sanders.

Vice President, (re-elected) W. P. Moore.

Treasurer, J. M. Curtis.

Secretary, (sixth term) G. H. Wolfe.

TRUSTEES.

A. Laver,		J. Wright,
A. Pissis,	J. E. Wolfe.	B. E. Henricksen.

Secretary presented plans of New City Hall Tower to the Chapter. A general discussion ensued in which every member present took part. The prevailing opinion was that the matter was placed before the Chapter by those in authority, viz., the Board of New City Hall Commissioners, and therefore should be taken hold of in a scientific manner. That in order to do so, certain data and drawings should be in possession of the Chapter. This could best be done by a committee. A motion was made that a committee of five be appointed to take charge of the whole subject matter. After considerable debate, the motion was carried, and the President appointed the following Fellows as such committee: Albert Pissis, James E. Wolfe, B. E. Henricksen, W. J. Cuthbertson, John Wright.

Meeting adjourned subject to the call of the President.

The Redwood Belt.

THE redwood is limited to a strip of country averaging twenty miles in width, extending from the bay of Monterey to the Klamath river, a distance of 350 miles. Redwood lumber is in great demand, and already vast forests of these stately trees have been swept away. The redwood, however, does not grow in poor soil, and in many places where the trees have been cut, young redwood forests are again springing up. Those who imagine that there is any immediate danger of the redwood becoming extinct are certainly drawing upon the very remote future for ills. The tree is of comparative slow growth, but half a century will give to the young growth quite the appearance of a native forest.

TWENTY-THIRD INDUSTRIAL EXPOSITION OF THE MECHANICS' INSTITUTE.

THE Twenty-third Exhibition of the Mechanics' Institute is over, and we may safely say in its general arrangements and the studious efforts made by the Directors to please the public generally, a grand success has been scored for the Institute.

We can simply call attention to those articles directly connected with the building interests. First and foremost in the consideration of architects are the subjects of

HEATING AND VENTILATION

Scientific men have given much of their time to the consideration of these subjects. The progress made during the past year has been wonderful, and deserves more than a passing notice.

HEATING

A glance at the back numbers of this journal will show to any one the vast improvement made in HEATING APPARATUS for buildings. For years the HARVEY RADIATOR was illustrated in these columns. Hundreds of houses were supplied with them. They were good *then*, they are good *now*; and Mr. Harvey's countenance o'erspreads with a smile when he says, "they are not so pretty as those now in use, but the heat gets there all the same." The system now used by Mr. Harvey is far superior to that of a few years ago.

Mr. Harvey has recently assumed the agency of the celebrated

This method of artificial heating is recognized as being far superior to grates or hot air furnaces from every point of view. A uniform and spring-like temperature can be maintained throughout the house with but slight attention.

In the exhibit will be found Harvey hot water radiators and boilers, and Bundy's direct steam or hot-water radiators, Bundy's Triumph, for steam or hot water, the Bundy Elite, for hot water or steam, and the Bundy corner direct, column direct, circular direct, angle indirect, horizontal indirect, and Climax indirect radiators. Also, the Bundy hot-closet, dining room radiator, the latter a most useful and highly ornamental contrivance for disseminating warmth throughout the dining room, while at the same time affording a very convenient mode of securing an equable degree of heat for meats, vegetables and other food which may be placed within it. The collection of radiators on exhibition illustrates that decorative art in dwellings is not confined to the adornment of walls, floors, ceilings, or wood work, but is carried into the more utilitarian adjuncts of a wisely ordered household. These radiators are of ornamental design and beautifully decorated in blue and gold, blue and silver, bronze, or bronze and silver, antique bronze, silver embossed, and can be thus decorated to suit the taste of the purchaser. Thus the heating appliances of a room can be made to harmonize in color and design with its wainscottings, panelings and other decorations, and become part and parcel of artistic *ensemble*. A splendid Bundy Vertical Tube Direct Radiator Screen in highly ornamental antique brass (the first yet imported to this coast) occupies a conspicuous place in the center of Mr. Harvey's exhibit, and it is a thing of beauty. These screens, or covers, are made to fit any style or size of radiators. Mr. Harvey is a thoroughly scientific artisan, and a very close yet comprehensive study of the laws of heat and ventilation, united with a practical experience in constructive work, extending over many years, renders him the best qualified man in our midst for the intelligent direction of this most important sanitary work. He offers hundreds of references from those who have had his valuable services on this coast. Mr. Bundy publishes references to well-known people in every State and Territory east of the Rocky Mountains.

By a happy co-incidence, the exhibit of

ABRAHAMSON'S VENTILATORS

Is almost directly over that of the Harvey & Bundy Heaters, showing that these two subjects are inseparably connected. Mr. Abrahamson devotes all his time and attention to his perfect ventilators, and he is fully prepared to explain his system satisfactorily to any one.

The advantages of a perfect system of ventilation, which at the same time obviates a draught, are too palpable to admit of any adverse opinion. Peter Abrahamson has mastered a difficult problem in this direction through a patented invention that meets every requirement and commands the approval of numerous prominent citizens, among whom are Professor J. W. Anderson, Superintendent Public Schools; Peter A. Smith, Superintendent California Sugar Refinery; Harvey Platt, Superintendent Pioneer Woolen Mills; Alfred W. Perry, M. D., Charles F. Crocker, California cor. Jones; Palace Hotel; Mr. Reed, Berkeley; Dr. Gonzales, Fresno, and many others. By this ingenious system a constant circulation of air is secured, which, admitting pure air from out of doors, also expels the heated and poisoned atmosphere from the rooms where it is used. We give Mr. Smith's testimonial, as follows:

Peter Abrahamson, Esq.,—DEAR SIR: The ventilators you put in my bedroom work to perfection; they keep the air fresh and cool. I would not be without them for double the cost. I can recommend them as the best and most perfect I have ever seen. Any information will be cheerfully given by calling at 504 Ninth street, San Francisco. Respectfully yours,

PETER A. SMITH,
Supt. Cal. Sugar Refinery.

In addition to the above, by consulting the advertising pages of this Journal you will find a long list of those who have adopted Mr. Abrahamson's system. Many of the Architects heartily endorse his views and the general adoption of the Ventilators is but a question of a short time.

FINE ART IN STAINED GLASS.

One of the most attractive displays at the Mechanics' Fair is the exhibition of stained glass from the Pacific Glass Cutting Works of John Mallon, 19 Fremont street. The exhibit is fitted up as a room-interior, one wall of which is covered by an immense plate-mirror and the other three by numerous examples of glass windows and panels through which the light enters the apartments, showing in all their detail the brilliancy and fineness of the coloring and delicacy of the workmanship. The two kinds of glass work —the open mosaic and the painting in oil—are represented by many examples. A memorial window designed for the Presbyterian Church of San Diego is an especially handsome production, and a beautiful window of Moresque pattern composed of 2,500 pieces of brilliantly colored glass, as well as a Longfellow window with a finely painted head of the poet as a center piece, deserve all the admiration that can be bestowed upon them. Fine screens in mosaic abound, which reflect the scintillating light in all the colors of the rainbow. The exhibit is a credit to the industrial interests of the State, and the establishment it represents has almost a monopoly of the home market in its line.

REDWOOD VENEERS

Of all the elegant booths at the Fair few make a more superb appearance than that of Hurlbut Bros., the leading veneer dealers. The redwood veneer work which is used in the ornamentation of their quarters is by far the finest ever seen on the coast. All who see it express the greatest admiration, and it is generally conceded to be as handsome wood as earth can produce.

"ELASTICA"

Keefe & Fraser have on exhibition what is perhaps the finest display of California redwood ever seen anywhere. It is hard to imagine anything more beautiful in the way of wood than are many of the specimens of curly and buhrl wood of California's great staple. The specimens are beautifully finished with "elastica" —a new preparation intended to supersede varnishes for such purposes—and colored with stains which are the exclusive property of this firm.

FINE LUMBER, HARRIS & JONES

Starting in a small way, this firm has gradually advanced to the front rank. Their display of lumber is very fine. One board is shown without a check or crack. It is 12 feet long, 44 inches wide and 4 inches thick. They also have beautiful examples of Oregon pine and maple, red and white cedar, spruce, sugar pines, etc. Bryant street, corner Oak Grove avenue is their office.

[Continued on Page 117.]

"SONOMA"—A BEAUTIFUL COUNTRY HOME—COST $5,500.

The plans illustrating a country home in Sonoma County, Cal., were kindly furnished to us by Mr. Sam'l Newsom. Sizes of the rooms are plainly marked. The various apartments are roomy and every modern convenience has been introduced. As shown, the building can be erected at present price of materials, for the sum named.

PLASTER.

FEW people have any idea what a valuable material plaster of Paris is, and how it enters into the things of every day life about us, from the hard finish on the wall to the lamp collar which is fastened with it.

It is found in raw state in almost every land, and is made of gypsum rock, (a sulphate of lime.) It is quarried, calcined, ground to various degrees of fineness and then recalcined or boiled in huge caldrons, and is then fit for use. The best is made mostly in New York, from rock quarried in Nova Scotia, and is the kind used by dentists for all sorts of fine castings. We get another grade from Michigan, sometimes called by the trade blue plaster, on account of a blue cast in it. This kind is used mostly for hard finishing of walls. Another grade, coarser plaster, comes from Iowa, which has been used extensively for what is called "stucco plastering," in which a mortar is made of one part of plaster to two of sand and enough glue size to keep it from settling too quick. It makes one of the hardest kind of walls, but can be attempted only by the most skilled mechanic.

Plaster in setting can be retarded or accelerated by the use of various ingredients. Glue size is best for retarding, as it makes it materially harder after it is dry. Sugar, molasses and cream of tartar can be used for the same purpose. Cream of tartar is dangerous to use, as a little too much will kill the plaster from settling entirely. Two of the best things to use in making plaster set thick are common salt or alum. Plaster that has been kept a long time and has gathered moisture, or that has been set in a damp place, will also set quick. This can be remedied by removing all lumps that may have formed, and heating it on a stove in some metal vessel. When heated it will appear to boil like a liquid. Ground, uncalcined plaster is used extensively to improve what are called sour lands. Plaster in setting heats slightly, which causes it to expand. An eminent authority claims that this expansion will cause it to fill the crevices of a mold. But this is a mistake, as the expansion does not take place until it is quite hard.

MORTAR made in the following manner will stand if used in almost all sorts of weather: One bushel of unslaked lime, three bushels of sharp sand; mix 1 lb. of alum with one pint linseed oil, and thoroughly mix this with the mortar when making it, and use hot. The alum will counteract the action of frost on the mortar.

For seventy yards of surface provide 1,000 pieces of lath, and eleven pounds of lath nails.

For 100 square feet of roof, 1,000 shingles, laid four inches to the weather, and five pounds of shingle-nails, will be necessary.

In estimating amounts of siding and flooring, allow one-fifth more than the surfaces to be covered for the lap in siding and the matching in the flooring.

Experiments with cypress and walnut woods, and also with cypress and cedar, show that they will rot each other while joined together; but on separating them the rot will cease, and both woods then remain perfectly sound for a long time.

An Evidence of Prosperity.

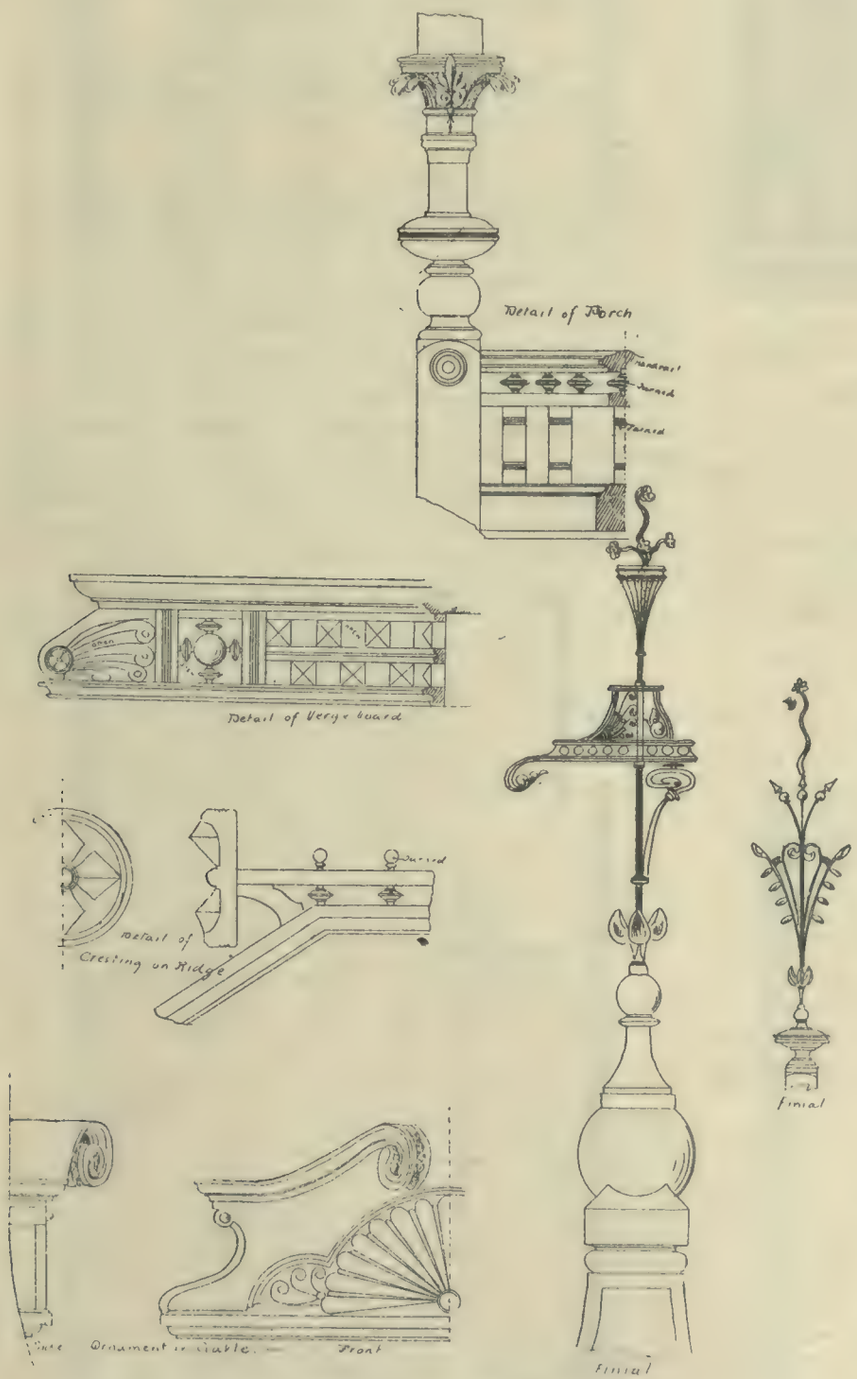
NO journal this side of the Rocky Mountains has ever published as complete an edition of news connected with the building interests as the one we present to our readers this month.

Our illustrations are produced by a new process, and are remarkable for their fine, clean appearance. We are prepared to furnish cuts of the same quality of work to those who may desire the same.

Our building news department will, in a short time, be greatly enlarged. We intend to be more thorough than all the other journals combined.

Subscribe now for 1889.

Remaining numbers of this year free to all new subscribers for 1889.



"SONOMA"—GENERAL DETAILS.

"SONOMA"—FLOOR PLAN.

NOW IS THE TIME TO SUBSCRIBE FOR 1889.

WE will send the remaining numbers of this year free to all new subscribers for 1889.

WE PROMISE

NEW AND BEAUTIFUL ARCHITECTURAL DESIGNS.

With our new process, we are enabled to produce cuts far ahead of anything hereto fore presented.

COMPLETE BUILDING REPORTS.

Our corps of building correspondents will be doubled next year. We have also had the city districted and a competent party to take charge of each district. Our city news will, therefore, be perfect.

ARCHITECTS

Have promised, with the new year, to send us each month an article, and, where necessary, illustrations for same.

Subscribe now for 1889.

YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, LOS ANGELES, CALIFORNIA.

We give our readers in this issue views of the new Association building now in course of erection at Los Angeles, Cal. The following description of it is sent to us. The site for this important addition to the fine edifices of the "City of Angels" is on the west side of Fort street between Second and Third streets. The lot is 70 feet front by 110 feet deep. The building will cover the whole width of the lot and extend back to within five feet of the rear boundary, thus reserving an alleyway and light for the basement. The plans show a building, four stories in height above the basement, with an attic story. The front portion of the first story is occupied by three stores (two 24x65 feet and one 18x65) and the main entrance to the Association rooms, the latter being 11 feet between the piles of the arch opening into a vestibule 13 feet wide. The rear part of this story is taken up by the upper part of a gymnasium. Having ascended the main staircase, which is eight feet wide, one finds himself in what is really a part of the reception hall, but if desired, can be shut off from the latter and made to serve as a vestibule to the auditorium. To the left is an arcade of three semicircular arches, filled in with bronze scroll work, and supported by graceful columns with sculptured capitals and bases. Beyond this arcade is the reception hall proper, 23x22 feet, situated in the center of the building and having the other rooms arranged around it. Directly opposite the visitor as he enters is the Secretary's office, so placed that the Secretary or his assistant can command a full view of the entrance, and at the same time overlook the reading room and library.

The members' parlor, 18x36 feet, reading room, 22x30, and library, 18x30, occupy the front of the building on this floor. A curtained arch divides the reception hall from the reading room, which is the middle one of these three, separated from the library on the one side by a scroll-work screen and leading into the parlor through an anteroom on the other side. The anteroom can be thrown into either the reading room or the parlor by means of sliding doors. It also opens out into a balcony over the main entrance, where members can enjoy the open air. The parlor is provided with an oriel bay window of stone, having a slight projection over the sidewalk, thus giving larger window surface, as well as adding to the size of the room. Another bay window extends in front of the library and reading room, and forms a connecting lobby between the two rooms. The library will be fitted up with alcoves for books, an open pressed-brick fireplace, and everything made convenient and comfortable for the studious.

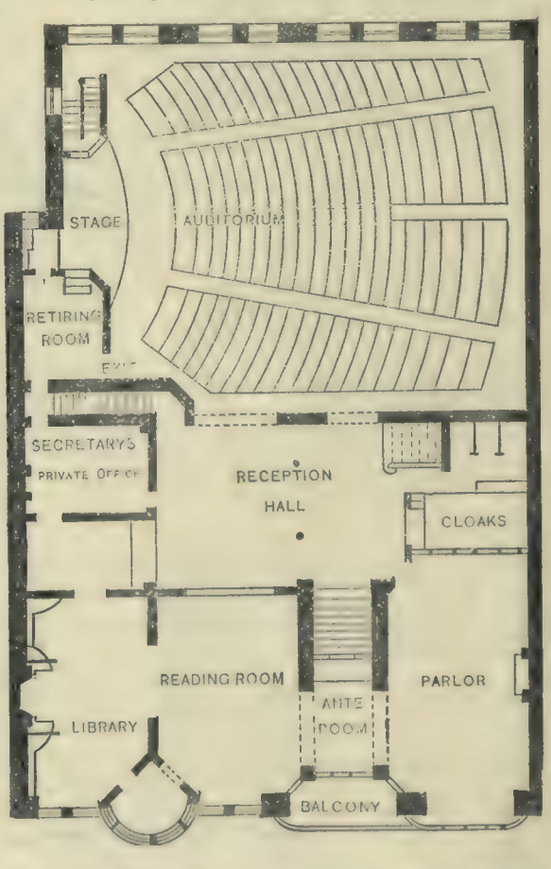
The auditorium, 64x49 feet, occupies the rear of the building, is directly over the gymnasium, and like the latter is two stories in height. It is calculated to seat 525 persons on the lower floor and 250 in the gallery. To the right of the entrance hall or vestibule are the cloak room and toilet room. The members' parlor may also be entered from this side. Next to the Secretary's office is the stairway leading down to the gymnasium. On the third floor are placed the recreation room, 34x28; the boys' room, 16x30; and a class room, 18x32; these rooms being divided one from the other by sliding doors. Another class room is provided in the rear of the one above mentioned, and the two rooms can be thrown together by opening the sliding doors. There is an open court or well on this floor which lights the center of the building and the reception hall which is beneath. The rear of this floor is occupied by the gallery of auditorium, a kitchen, 16x14; toilet rooms, staircases, etc.

On the fourth floor are ten rooms, to be rented for lodgings to young men; these average 12x14 feet and are all outside rooms. Apartments for janitor are also on this floor.

We now turn to the basement, to many the most attractive part of the building—containing the gymnasium and baths. The former occupies the rear of the building and is directly under the large auditorium. A room is set apart at one end for the instructor.

A running track, six feet six inches wide extends around the walls, at about ten feet above the gymnasium floor. Above the running track is a gallery for the convenience of visitors wishing to view the gymnastic exercises. Dividing the gymnasium from the bath rooms are the member's lockers, about 600 in all, with wash bowls and toilet conveniences adjoining. The remainder of the basement is taken up by the swimming bath, 14x44 feet, with diving platform, etc.; eleven sponge baths, five tub baths, shower and needle bath room, two bowling alleys 70 feet long, and the engine and boiler room.

The general style of the building is American Romanesque, although the mullioned and oriel windows and some other features belong, strictly speaking, to the English Gothic style of the fifteenth century, they are made to harmonize with the more severe and impressive style of the three or four centuries earlier. The principal entrance is well-defined and inviting,



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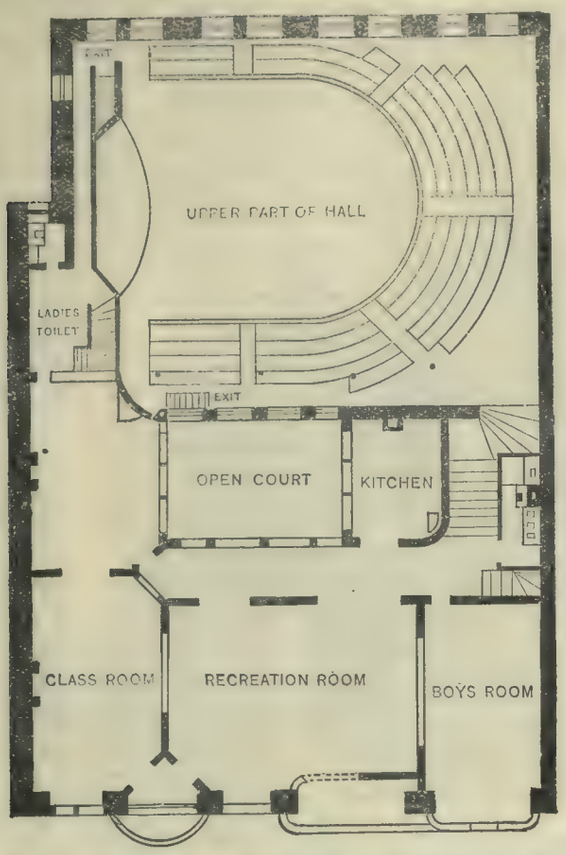


and may be said to be typical of the characteristic strength of the Association in all parts of the world. The balconies over the entrance open from the principal rooms of the building, and over these balconies is a circular open tower from which a fine view of the city may be obtained. The front of the building will be faced with pressed brick and brown stone trimmings, with terra cotta panels. The first story will be entirely of brown-stone, in pitch-faced broken ashlar work. The entrance will be closed at night time by a portcullis of wrought iron or bronze.

The building, when finished, will cost probably $55,000.

"SANITAS" PLUMBING APPLIANCES.

THE superiority of the Sanitas system and appliances is now so widely recognized that the word "Sanitas" has become synonymous with sanitary safety. It suggests scientific and solid construction, and simplicity of form and action, and the use of the Sanitas goods assures these qualities. The fact that their principles of construction are everywhere being imitated by other manufacturers, as far as the Sanitas patents will allow, indicates the reputation they have among the trade.

The extraordinary success which the Sanitas appliances have met with, has, as above indicated, led to a number of imitations and infringements. We are informed that in several instances, even where the Sanitas goods have been called for in specifications for building, portions of the goods furnished under the contract have been such imitations and infringements. We would therefore call the attention of architects, builders and others interested, that every article manufactured by us bears in a conspicuous place, the word SANITAS.

THE "SANITAS" TRAP

(1.) It is sometimes asserted that the seal of the Sanitas trap can never be broken under any conditions. This is erroneous. Its seal can be pumped out by a force-pump, or by a laboratory pumping apparatus, especially devised to destroy the seals of traps by siphonage. But the seal of the unvented Sanitas trap never can be and never has been destroyed by siphonage in good plumbing work. Furthermore, the unvented Sanitas trap will stand a severer test of siphoning action than will the vented S-trap. This has been demonstrated over and over again, and the demonstration can be repeated at any time to the satisfaction of any who are interested, provided care be taken to vent the S-trap in a manner which is practical in plumbing, using a vent-pipe the size, length, and average number of bends found in ordinary practice. The seal of the Sanitas trap will be lowered by severe siphoning action, but it cannot be broken.

(2.) Again, it is sometimes asserted that the Sanitas trap can not be clogged. This is also erroneous. The trap can be clogged by matches or kitchen refuse, if improperly used, just as can any ordinary waste-pipe; but when properly set and used, the Sanitas trap will never become clogged to the point of losing its effectiveness. If improperly used, as when under kitchen sinks the cook takes out the sink strainer and sweeps into the trap bones and refuse never intended for the waste-pipe, the Sanitas trap will be fouled; but it then has the great advantage over all others of providing the easiest and safest means of removing this refuse matter, and that with the aid of an ordinary screw-driver. When used under sinks, the trap should be placed close to the sink outlet, and the sink-strainer should never be removed. The grease will then pass through the trap in a liquid state, and be caught in the suitable grease receptacle beyond.

(3.) It is often thought that where special trap vent-pipes are called for, the Sanitas trap is not needed. The Sanitas trap is so constructed that its seal cannot be injured by evaporation produced by trap venting. Therefore, where trap vent-pipes are called for, the use of the Sanitas trap is particularly necessary. In virtue of the peculiar construction of the Sanitas trap, its outlet-pipe forms its own vent-pipe, which is infinitely better than a special vent-pipe, inasmuch as it is always kept open by the scouring action of its own discharges. But even if it should ever become closed by grease, no harm could come in this case, since the same closure would not only shut off sewer gas and siphonage, but also at once announce itself and be removed.

(4.) Finally, the seal of this trap can never be destroyed by back pressure, in properly arranged plumbing. For with the main soil-pipe vented as it should be, no back pressure can be generated strong enough to do mischief, where ordinary care and intelligence are used in originally laying out the work.

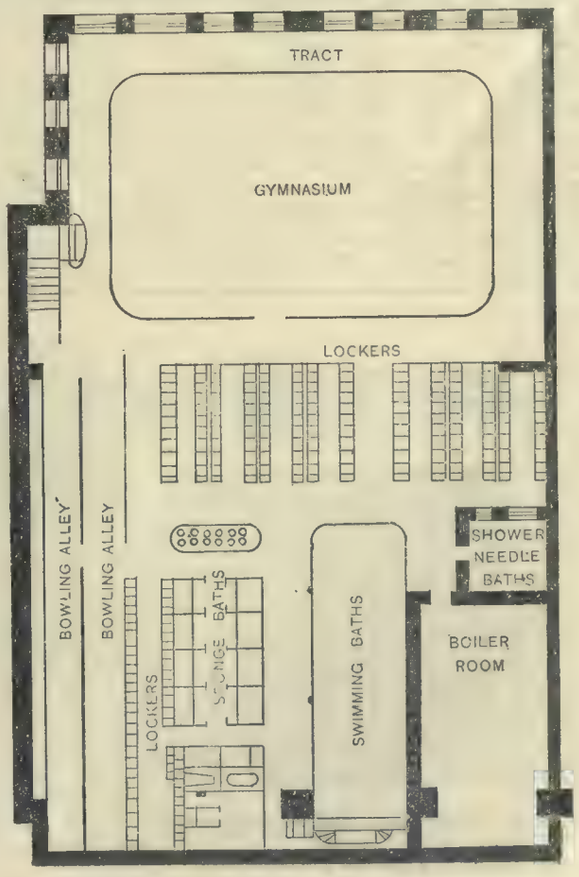
Besides the trap, the Sanitas Manufacturing Company have a full line of bath tubs, pantry sinks, water closets, etc., etc. The latter will be more fully described in next issue.

WILLIAM E. HOYT, C. E., S. B.

Chief Engineer of the Buffalo, Rochester & Pittsburg Railroad, formerly Chief Engineer of the Massachusetts State Board of Health, in his lecture on "Household Sanitation," delivered before the Academy of Sciences, at Rochester, N. Y., in January, 1886, writes: "I know of nothing to compare with the Sanitas appliances in convenience, efficiency and safety. They should be regarded in the same light as valuable discoveries in medical science."

These various appliances are kept in full stock in this city by the agents,

ARNOLD & Co., 40 California Street, San Francisco, Cal.



(Continued from page 112.)

A GRAND REDWOOD PLANK

Perfectly free from knots or checks, there stands against the side of the Pavilion a redwood plank, 13 feet long, 50½ inches wide and 3 inches thick. Where in the world can this be beaten?

CALIFORNIA SLATE

The slate quarry in El Dorado Co. can furnish slate equal to any in the world. The color is a rich blue-black. The grain is very fine and the surface is unusually smooth. The samples in the Fair prove conclusively that those wanting a perfect fireproof material need not go out of the State to procure the same. J. O. Hanscom is Secretary of the Company, and the office is at 10 California street.

RANSOME'S PATENT CONCRETE MIXER

E. L. Ransome, of 402 Montgomery street, presents one of his celebrated Patent Concrete Mixers. In a late issue of the *Scientific American*, attention was called to their superiority. By their aid any one can prepare material ready for instant use. Mr. Ransome has these machines for sale. He also makes a specialty of renting the same, so that those who only want them for certain work can return the "Mixer" when they have finished the job.

CALIFORNIA WIRE WORKS

The grand display presented by the California Wire Works entitles them to a gold medal. In fact it should be a diamond medal, if truly intrinsic merit was considered. They have a machine in active operation making barbed wire fencing. We have noticed people stand for hours watching the same. Then their French or wire nail machine. How it seems to eat up the coils of wire. The latter is placed in such a position that the machine is fed continuously, and the nails drop in a perfect shower in a large box underneath. It will hardly do for one to pick them up, at least for some little time, as they are hot when they leave the machine. Then, the grand display of wire rope for rigging; the mammoth hawsers for large vessels; the steel wire rope for our cable systems; beautifully designed summer houses, and even down to fine bird cages; wire screenings of every size, from that strong enough for a jail to that in general use for kitchen windows. In fact, everything in the shape of wire ornaments, and for every purpose for which wire can be utilized, this Company presents in its various exhibits the practical results of many years of study and improvements. The office of the Company is at 329 Market.

MANTELS, MIRRORS, AND BRIC-A-BRAC

S. & G. Gump have one of the most exquisite displays in the Fair. The designs in mantels are very artistic. A feature of their display is the beautiful varieties shown in tiles and hearths. Their parlor ornaments attract much attention from their unique styles.

FINE CARPETS

Next to the building of the house comes the furnishing thereof, and the goodly housewife turns her first attention to the carpets. No other place this side of the Rocky mountains can show the assortment of goods exhibited by Sloane & Co. Ravishingly exquisite designs may be seen of the Chehabas and Royal Fereghan (both Persian), Gobelin and Victorian Moquettes, Scotch Axminsters, Afghan, and in fact every kind of patterns to suit the most aristocratic tastes. Besides the carpets, Messrs. Sloane & Co., keep a full assortment of window hangings and adornments. This grand establishment may be found on Market street, near 3d, Nos. 641 to 647.

"MATHUSHEK'S PIANOS."

Geo. F. Wells presents a grand display of "Mathushek" pianos. Of the thousands who stand daily at his booth, but few are there who would not at once award the palm to the "Mathushek." Mr. Wells feels proud in the fact that the last prize ever given at the Mechanics' Fair for an eastern made piano was won by the "Mathushek." One peculiarity of the firm making these grand instruments is, that they never advertise. So that any one reading a notice of these pianos can say that it was to the excellence of the tone and finish that such praise was called forth. Some of the Piano Companies spend thousands of dollars yearly in advertising. This must be charged *pro rata* to each piano. With the "Mathushek." the buyer gets this discount Mr. Wells can be found at 1360 Market street.

LARGE STICK OF TIMBER

Suspended overhead is the largest stick of timber ever sawn at a mill. It is 151 feet long, 20 inches square and contains 5033⅓ feet of lumber. But few knots can be seen in its entire length

WILL & FINCK'S CUTLERY, ETC.

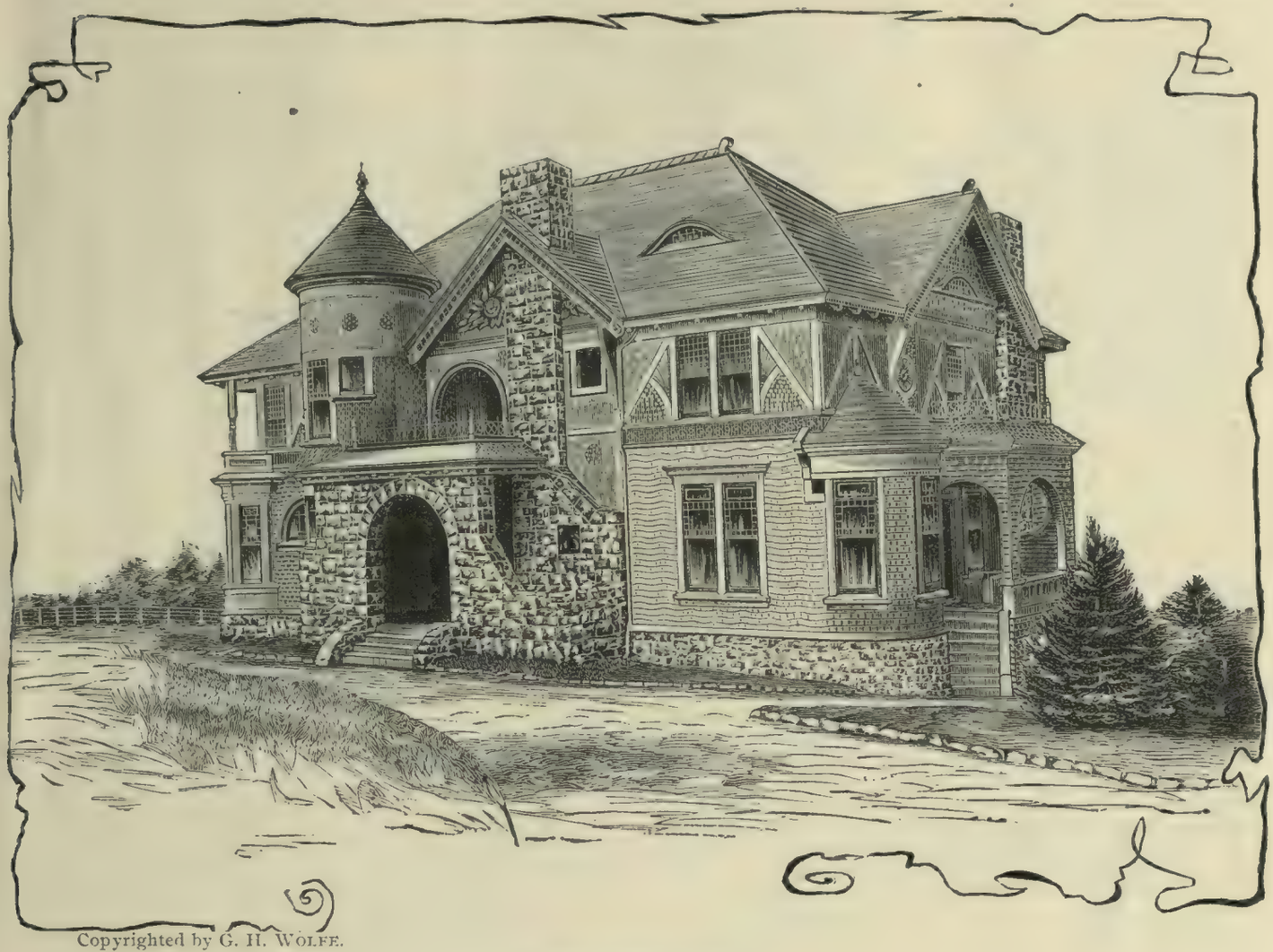
This firm's display proves that skill and energy will surmount al difficulties. Starting many years ago, in a very small way, they have gradually advanced, until to-day, there is not a house this side of the Rocky mountains can compete with them. Their display of home-made cutlery is superb. One of the specialties of this firm is their electric bell system. Many of our largest hotels and other buildings have been furnished with their electric bells and electric lightings. The annunciators furnished by this house are a model of neatness and availability. Their place of business is 818 Market street, in the Phelan building.

Mr. J. B. Kershaw, who represented Messrs. N. and G. Taylor Co., tin plates, metals and tinners' supplies, Philadelphia, from 1879 to 1886 as traveling salesman through the west and northwest, will again fill the same position with this old and reliable house, on and after August 1st. This notice will be acceptable to the trade west of the Mississippi, extending out to the coast, with whom Mr. Kershaw has hosts of friends.

Messrs. N. and G. Taylor Co. are the sole importers of the genuine and guaranteed brand of OLD STYLE Roofing Tin, and the return of Mr. Kershaw to this live and energetic house is not without considerable significance, and it is fair to presume that he finds it more profitable to sell the guaranteed, and what may be called the "original brands" of this house, rather than push the sale of any imitations that may be handled by other parties.

Messrs. N. and G. Taylor Co. carry a full line of all their guaranteed brands in not only their Chicago and New Orleans warehouses in addition to the stocks carried by jobbers who handle their goods, but have also placed their goods in the hands of Messrs. W. W. Montague & Co., of San Francisco; Harper & Reynolds Co., of Los Angeles, and we are now advised, have just established an agency with Messrs. Peters & Miller, galvanized iron cornice and tin plate workers, of Tacoma, Washington Territory. They sell an immense quantity of their guaranteed brands all along the line of the Central and Northern Pacific, in fact, from a circular just issued by this house, we notice in the list nearly all the prominent jobbers and tin plate houses of the United States, which seems to us not only flattering to the brand they represent the sale of, but also creditable to this old and reliable house of Taylor & Co., who established their business as far back as 1810, in the old city of Philadelphia.

Rural Homes, Wheeler	1 50
Old Homes Made New	50
The Suburban Cottage	1 50
Homes for the People	2 00
Leffel's House Plans	2 00
Water Closets	1 00
Sewer Gas	1 25
Steam Engine Catechism	1 00
Builder's Guide	2 00
Cozy Homes	25
How to Paint	1 00
Cutting Tools	1 50
Universal Assistant	2 50
Rural Architecture	1 50
Wonders of Art	1 25
Grimshaw on Saws	4 00
Dwellings, Reed	3 00
Plumbing, Appliances	1 50



Copyrighted by G. H. Wolfe.

SAN FRANCISCO.

The above beautiful design was prepared especially for this Journal, and is peculiarly appropriate for a suburban home.

STANDARD UNIFORM CONTRACT.

Some time ago, special committees from the American Institute of Architects, the Western Association of Architects, and the National Association of Builders, were appointed to draw up a form of contract for general use, all over the United States.

The object sought to be obtained by the Committee was to prepare a Form of Contract which could be received and adopted generally by architects and builders as a Standard Form, and in which the several provisions necessary to constitute an equitable agreement, as between the owner and the builder, would be incorporated. The Joint Committee were empowered by their respective Associations to prepare and adopt such a Form of Contract, and this work, as embodied in the accompanying printed copy, may be said to be the authorized Standard Form of said Association.

A copy of the "Contract" has been forwarded to this office. We present it in full. AS THE "CONTRACT" HAS BEEN COPYRIGHTED, copies can only be obtained through the "Inland Publishing Co." Chicago, Ill. If desired, forward your application to the Company, and your name and address will be printed in the proper places.

We can furnish them complete, with your names, etc., added for $2 00 per hundred or $10 per thousand.

THIS AGREEMENT, made the.....day of .....in the year one thousand....hundred and..... by and between..... .....part of the first part (hereinafter designated the *Contractor* ;) and..... .....part of the second part (hereinafter designated the *Owner ;*)..... WITNESSETH that the Contractor , being the said part of the first part, in consideraton of the covenants and agreements herein contained on the part of the Owner , being the said part of the second part, do covenant, promise and agree with the said Owner ,in manner following, that is to say:

1st. The Contractor shall and will well and sufficiently perform and finish, under the direction, and to the satisfaction of .....Architect (acting as Agent of said Owner), all the work included in the..... agreeably to the drawings and specifications made by the said Architect , and signed by the parties hereto, (copies of which have been delivered to the Contractor), and to the dimensions and explanations thereon, therein and herein contained, accord-

ing to the true intent and meaning of said drawings and specifications, and of these presents, including all labor and materials incident thereto, and shall provide all scaffolding, implements and cartage necessary for the due performance of the said work.

2d. Should it appear that the work hereby intended to be done, or any of the matters relative thereto, and are not sufficiently detailed or explained on the said drawings, or in the said specifications, the Contractor shall apply to the Architect for such further drawings or explanations as may be necessary, and shall conform to the same as part of this contract, so far as they may be consistent with the original drawings, and in event of any doubt or question arising respecting the true meaning of the drawings or specifications, reference shall be made to the Architect , whose decision thereon, being just and impartial, shall be final and conclusive. It is mutually understood and agreed that all drawings, plans and specifications are and remain the property of the Architect .

3d. Should any alterations be required in the work shown or described by the drawings or specifications, a fair and reasonable valuation of the work added or omitted, shall be made by the Architect , and the sum herein agreed to be paid for the work according to the original specification, shall be increased or diminished as the case may be In case such valuation is not agreed to, the Contractor shall proceed with the alteration, upon the written order of the Architect , and the valuation of the work added or omitted shall be referred to (3) three Arbitrators, (no one of whom shall be personally connected with the work to which these presents refer), to be appointed as follows: one by each of the parties to this contract, and the third by the two thus chosen; the decision of any two of whom shall be final and binding, and each of the parties hereto shall pay one-half of the expense of such reference.

4th. The Contractor shall, within twenty-four hours after receiving written notice from the Architect , to that effect, proceed to remove from the grounds or building, all materials condemned by , whether worked or unworked, or take down all portions of the work which the Architect shall condemn as unsound or improper, or as in any way failing to conform to the drawings and specifications, and to the conditions of this contract. The Contractor shall cover, protect and exercise due diligence to secure the work from injury, and all damage happening to the same by neglect, shall be made good by

5th. The Contractor shall permit the Architect , and all persons appointed by the Architect , to visit and inspect the said work or any part thereof, at all times and places during the progress of the same, and shall provide sufficient, safe and proper facilities for such inspection.

6th. The Contractor shall and will proceed with the said work, and every part and detail thereof, in a prompt and diligent manner, and shall and will wholly finish the said work according to the said drawings and specifications, and this contract, on or before the.....day of .....in the year one thousand....hundred and..... (provided that possession of the premises be given the Contractor , and lines and levels of the building furnished him, on or before the.....day of.....in the year one thousand.....hundred and.....), and in default thereof the Contractor shall pay to the Owner.....dollars for every day thereafter that the said work shall remain unfinished, as and for liquidated damages.

.....

.....

7th. Should the Contractor be obstructed or delay in the prosecution or completion of the work by the neglect, delay or default of any other contractor; or by any alteration which may be required in the said work; or by any damage which may happen thereto by fire, or by the unusual action of the elements, or otherwise; or by the abandonment of the work by the employees through no default of the Contractor , then there shall be an allowance of additional time beyond the date set for the completion of the said work; but no such allowance shall be made unless a claim is presented in writing at the time of such obstruction or delay. The Architect shall award and certify the amount of additional time to be allowed; in which case the Contractor shall be released from the payment of the stipulated damages for the additional time so certified and no more. The Contractor may appeal from such award to arbitrators constituted as provided in Article 3d of this contract.

8th. The Contractor shall not let, assign or transfer this contract, or any interest therein, without the written consent of the Architect .

9th. The Contractor shall make no claim for additional work unless the same shall be done in pursuance of an order from the Architect , and notice of all claims shall be made to the Architect in writing within ten days of the beginning of such work.

10th. The Owner agree to provide all labor and materials not included in this contract in such manner as not to delay the material progress of the work, and, in the event of failure so to do thereby causing loss to the Contractor , agree that will reimburse the Contractor for such loss; and the Contractor agree that if shall delay the material progress of the work so as to cause any damage for which the Owner shall become liable (as above stated), then shall make good to the Owner any such damage—over and above any damage for general delay herein otherwise provided; the amount of such loss or damage, in either case, to be fixed and determined by the Architect , or by arbitration, as provided in Article 3d.

11th. The Owner shall effect insurance on said.....work, in his own name and in the name of the Contractor , against loss or damage by fire, in such sums as may from time to time be agreed upon with the Contractor , the policies being made to cover work incorporated in the building, and materials for the same in or about the premises, and made payable to the parties hereto as their interest may appear.

12th. Should the Contractor at any time refuse or neglect to supply a sufficiency of properly skilled workmen, or of materials of the proper quality, or fail in any respect to prosecute the work with promptness and diligence, or fail in the performance of any of the agreements on part herein contained, such refusal, neglect or failure being certified by the Architect , the Owner shall be at liberty, after three days written notice to the Contractor , to provide any such labor or materials, and to deduct the cost thereof from any money then due or thereafter to become due to the Contractor under this contract; and if the Architect shall certify that such refusal, neglect or failure is sufficient ground for such action, the Owner shall also be at liberty to terminate the employment of the Contractor for the said work and to enter upon the premises and take possession of all materials thereon; and to employ any other person or persons to finish the work, and to provide the materials therefor; and in case of such discontinuance of the employment of the Contractor he shall not be entitled to receive any further payment under this contract until the said work shall be wholly finished, at which time, if the unpaid balance of the amount to be paid under this contract shall exceed the expense incurred by the Owner in finishing the work, such excess shall be paid by the Owner to the Contractor , but if such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner . The expense incurred by the Owner as herein provided, either for furnishing materials or for finishing the work and any damage incurred through such default, shall be audited and certified by the Architect whose certificate thereof shall be conclusive upon the parties,

13th. And it is hereby mutually agreed between the parties hereto, that the sum to be paid by the Owner to the Contractor for said work and materials shall be.....

.....

.....

subject to additions or deductions on account of alterations as herein before provided, and that such sum shall be paid in current funds by the Owner to the Contractor in installments, as follows:

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.....

.....

It being understood that the final payment shall be made within.....days after this contract is completely finished; provided, that in each of the said cases the Architect shall certify in writing that all the work upon the performance of which the payment is to become due has been done to satisfaction; and provided further, that before each payment, if required, the Contractor shall give the Architect good and sufficient evidence that the premises are free from all liens and claims chargeable to the said Contractor ; and further, that if at any time there shall be any lien or claim for which, if established, the Owner or the said premises might be made liable, and which would be chargeable to the said Contractor , the Owner shall have the right to retain out of any payment then due or thereafter to become due, an amount sufficient to completely indemnify against such lien or claim, until the

Various Designs for Business Buildings.

same shall be effectually satisfied, discharged or cancelled. And should there prove to be any such claim after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging any lien on said premises, made obligatory in consequence of the former's default.

14th. It is further mutually agreed between the parties hereto, that no certificate given or payment made under this contract, except the final certificate or final payment, shall be conclusive evidence of the performance of this contract, either wholly, or in part, against any claim of the Owner , and no payment shall be construed to be an acceptance of any defective work.

15th. And the said Owner hereby promise and agree with the said Contractor to employ, and hereby employ to provide the materials and to do the said work according to the terms and conditions herein contained and referred to, for the price aforesaid, and hereby contract to pay the same, at the same time, in the manner, and upon the conditions above set forth.

16th. And the said parties for themselves, their heirs, executors, administrators and assigns, do hereby agree to the full performance of the covenants herein contained.

In Witness Whereof, the parties to these presents have hereunto set their hands and seals, the day and year first above written.

In presence of.....

Great Chances for Three Inventors.

I have often taken occasion to remark that the world is awaiting the appearance of three great inventors, greater than any who have gone before; and to whom it will accord honors and emoluments far exceeding all ever yet received by any of their predecessors. The first is he who will show us how, by the combustion of fuel, directly to produce the electric current; the second is the man who will teach us to reproduce the beautiful light of the glowing-worm and the fire-fly—a light without heat, the production of which means the utilization of energy without that still more serious waste than the thermo-dynamic loss now met with in the attempt to produce light; while the third is the inventor who is to give us the first practically successful air ship. The first two of these problems are set for the electric engineer, and we may be pardoned excess of faith, should it prove to be such, when, contemplating the enormous gain to humanity which must come of such inventions, we look confidently for the genius who is to multiply the wealth of the world to an extent beside which even the boon conferred by the creators of the steam engine and telegraph will not appear overshadowing. When this inventor comes forward, and most probably not till then, it is very likely that we shall see steam superseded by a rival.—*Prof. R. H. Thurston.*

Galvanized Iron for Water Pipes, Tanks, etc.

I had the notion of using galvanized iron pipes, coated inside and out, for the service pipes of my house, but on asking advice on the subject, I have been informed that the material is declared to be unhealthful, and that its uses is forbidden in many places. I happened to notice, also, the accompanying note on the subject, in one of the scientific papers, which is to the same effect (clipping enclosed). Will you please give me the benefit of your opinion?—M. W., Cumberland, Md.

Answer. The clipping enclosed read as follows: "We do not consider galvanized iron to be a safe material for water pipes. Zinc is a metal which is readily attacked and dissolved by certain waters, forming unwholesome and poisonous salts." Replying to the above, we do not share in the opinion conveyed in the quoted item. We have never met with any well-authenticated case of hurtful influence exerted by zinc or galvanized iron when used as the contact surface for service pipes or tanks for water for household use. There is but one salt of zinc that may be said to possess actively poisonous qualities—namely, the chloride; and the likelihood of this salt being formed under any circumstances at least in quantity sufficient to dangerously affect the water is almost infinitely small. The action of portable water on a surface of zinc will be to form an exceedingly thin coating of oxide, and ultimately of carbonate of zinc over the entire surface. And as this salt is very insoluble, it will effectually protect the underlying metal from the further chemical change for an indefinite period. The Massachusetts State Board of Health, some years ago, investigated the subject, and made a report affirming the comparative harmlessness of zinc or galvanized iron for the purpose herein named. An instructive confirmation of this judgment is given by the example of the city of Hartford, Conn. In 1855, at the recommendation of the Water Commissioners of that city, service pipes of iron, galvanized inside and outside, were adopted there, and have been in use ever since. They are used also, to a considerable extent in Philadelphia, and other cities. So far as we are aware, in none of these places has the slightest bad effect been traced to the practice. Such evidence ought to outweigh any amount of condemnation based simply on hypothesis. In writing some time since, in this journal, on system, we took occasion to comment on the immunity, from any specific disease, of the men who work at the galvanizing pots, that could be traceable to the absorption of the metal. The use of sal-ammoniac as a flux to clear the surface of the melted zinc in the pot, causes clouds of the chloride to be carried into the air. Yet the men work at these pots day after day, sometimes when ventilation is bad (as on a damp day), enveloped in clouds of it so as to appear like shadowy figures at a short distance away, without noticeably affecting their general health. It is safe to assert, we believe, that a galvanizer handling iron about a galvanizing pot, takes into his system through the mouth and nostrils, whence it finds its way into the stomach and lungs, more zinc in the course of a single day's work than he would be likely to get from his galvanized water service pipes in a month. In the face of such a fact as this, the denunciation of zinc for water-storage tanks and conduits, out of fear of the consequences of the homœopathic doses of this metal that would be dissolved, is, in our judgment, a bugaboo.—*Mfr. and Builder.*

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CITY BUILDING NEWS.

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CALIFORNIA

Architect and Building News.

Ash Ave, between Buchanan and Laguna, residence. Owner Peter Flynn; architect Henry Geilfus; contractor Jas. Finn, cost $2,045; signed Aug. 16th, '88; filed Aug. 18th; limit Oct. 20th.

1st payment when roof is on $500; 2d, when partition and outside work done $500: 3d, when completed $530; 4th usual 35 days $515.

Ashbury and Waller, frame building. Owner, Julia Gascon; architect, Wm. Mooser; contractor, J. J. Plunn; cost, $2,900; signed, Aug. 15, 1888; filed Aug. 16, 1888; sureties, F. Joost and C. S. Holmes; limit, 10 days.

Payments, seventy-five per cent as work progresses; balance 35 days.

Army Ave, near San Jose avenue, additions to two buildings. Cost, $800.

Broderick, between Sutter and Bush, one-story frame Owner, S. Leszynski; architect, W. H. Armitage; cost, $3,000.

Bush between Fillmore and Webster, two-story and basement frame. Owner Rosalie Morris; architect John & Zimmerman; contractor F. W. Kern; cost $4,215; signed Aug. 15th, '88; filed Aug. 17th, '88; sureties O. W. Nordwell and F. Joost; limit Dec. 1st, '88.

1st payment when framed $800; 2d, when partitions are up $800; 3d, rough mortared and outside finish on $800; 4th when the inside is ready to paint $750; 5th and last usual 35 days, $1,062.

Buchanan, near O'Farrell. additions. Owner, W. Pluns; Cost, $1,500.

Bryant ave between 24th and 25th, two-story frame. Owner, Patrick Angler; architect and builder, Geo. Houston; cost, $3,000.

Clinton Park. near Dolores, two-story frame. Cwner and builder, J. McBean; cost, $4,500.

Capp, near Twenty-fifth, one-story frame. Owner and builder, Lewis; cost, $3,000.

Clayton between Page and Oak, one-story cottage. Owner, Miss Marie J. Castlen; architect, Jas. E. Wolfe; contractor, J. W. Sims; cost, $1,975; signed, August 30th, filed, September 1st; limit, Nov. 10th; surety, D. Jordan; amount of bond, $1,000.

1st payment, roof sheathing on, $300; 2d, floored, $300; 3d, brown coated, $450; 4th, completed, $431; balance, usual 35 days.

Clay between Central ave and Walnut street, two-story frame. Owner, J. W. Kelly; contractor, S. M. Hills; cost, $2,700

Clay, near Walnut, two-story frame. Owner, W. J. Kelly; architect and builder, S. M. Hills; cost, $2,500; signed Aug. 30, 1888; filed Aug. 31, 1888.

1st payment, when enclosed, $600; 2d, when brown coated, $600; 3d, when completed, $600; 4th, usual 35 days, $700.

Clay and Mason, residence. Owner C. Wreden; architect H. Geilfus; contractor F. W. Kern; cost $3,080; signed Aug. 14th; filed Aug. 18th, '88; limit Nov. 15th, '88.

1st payment when roofed $600; 2d, brown coated $600; 3d, hard finished $600; 4th when completed $510; 5th and balance usual 35 days $770.

Columbia and 24th, improvements. Owner Louis Kahn; architect H. Geilfus; contractor J. W. Sims; cost $1,625; signed Aug. 16th, '88; filed Aug. 18th, '88; limit Oct. 15th, 88.

1st payment when brickwork and planking is done $600; 2d when completed $600; 3d, usual 35 days, $425.

Diamond, near Eighteenth, two-story and basement. Owner, N. Straub; architect, John Zimmerman; contractor, J. Klein, cost, $3,300; signed, Aug. 25, 1888; filed, Aug. 28, 1888; surety, C. S. Holmes; limit, Nov. 1st, 1888.

1st payment, when frame is up, $825; 2d, when partitions are set, $825; 3d, ready to paint, $425; 4th, when completed, $400; 5th, usual 35 days, $825.

Diamond, near 18th, two-story and base, ment. Owner, N. Straub; architects; John & Zimmerman; contractor, J. Klein-cost, $3,300; signed Aug. 25, 1888;

1003 Devisadero, alterations. Owner Anna Callingham; architect Schmidt & Shea; contractor Thos. Elam; cost $1,325; signed Aug. 16th, '88; filed Aug. 17th, '88.

1st payment when building is enclosed on roof $490; 2d, when completed $500; 3d and last usual 35 days $335.

Emma, near Ridley, two-story frame. Owner, J. T. Meyers; contractors, Martin & Maguire; cost, $2,800.

Eddy and Buchanan, two-story frame. Owner-Elizabeth Burns; architect, B. Henrick, sen; contractor, A. G. Fitzpatrick; cost, $4,262; signed Aug. 14th; filed Aug. 16th, sureties, Jas. Pendergast; limit, 70 days; amount of bond, $4,300.

1st payment, when roof is on, $800; 2d, when brown coated and outside finish on, $800; 3d, white coated and sashes hung, $800; 4th, when varnished and trimmed, $800; 5th and balance, 35 days, $1,062.

Emma near Ridley, two-story frame, Owner Jno. F. Meyers; contractor Martin & Maguire; cost $2,550; signed Aug. 6th, '88 filed Aug. 17th, '88; sureties, J. W. Wesson; limit 90 days.

1st payment when framed $500, 2d, when brown coated and pipes in $500; 3d, plumbing done and doors hung $500; 4th, white coated and prime coat of paint $500; 5th, when completed $500.

Eighteenth and Noe, two-story frame. Owner, McQueen; contractors, McCreedy Bros.; cost $5,000.

Eighteenth, near Collingwood, one-story frame. Owner, Graham; builders, McCann & Schetzer; cost, $2,000.

Eighteenth, near Collingwood, additions; cost, $1,200.

Fell bet Webster and Franklin, two-story frame. Owner, Wm. Olsen; architect, H. D. Mitchell; contractor, R. Sinnott; cost, $2,950; filed, September 5th; limit, Nov. 12th.

Payments—frame up, $900; brown mortar on, $800; white mortar on, $700; balance, $550, 35 days.

Fell between Webster and Franklin, building, W. Olsen; architect, H. D. Mitchell; contractor, R. R. Fraxler; cost, $2,620; signed, August 27th; filed, August, 28th; limit, Nov. 5th, surety, C. A. Malm.

Payments; 1st, when frame is up, $600; 2d, when brown coated, $700; 3d, when building is primed, $700; 4th, usual 35 days, $620.

Fell, betwen Webster and Fillmore, two-story frame. Owner, Catherine Ruhling; architect, John & Zimmerman; contractor, Adam Miller; cost, $6,020; signed Aug. 16th; filed Aug. 30th; limit, Nov. 15th; sureties, Chas. Lackeman and H. Williamson.

1st payment, when framed, $1,000; 2d, when partitions are set, $1,000; 3d, outside finish on, $1,500; 4th, when inside is ready to paint, $1,000; 5th, usual 35 days, or when bills are all paid, $1,520.

Ford, near 17th, two two-story frame. Owner and Builder, I. Sullivan; cost, $4,000.

Fifth, near Mission, additional story. Cost, $2,500.

Folsom near 8th, building. Owner, Mrs. E. Hauser; architect, Salfield & Kohlberg; contractor, Kincaid and Thompson; cost, $4,460; signed, Aug. 16, 1888; filed, Aug. 29, 1888; limit, 65 days.

1st payment, when building is framed, $800; 2d, when building is roofed, $800; 3d, when building is brown coated, $840; 4th, when completed, $900; 5th, balance usual 35 days; sureties, F. P. Latson and John F. Kennedy; amount of bond $4,660.

Fillmore between Golden Gate ave and McAllister street, two-story frame. Owner, E. McEneany; architect, M. J. Welsh; contractor, T. Sullivan (plumbing and gas excepted) cost, $3,487; sureties, F. Joost, W. Thyarks; signed, Sept. 4th; filed, Sept. 5th; limit, 79 days.

Payments; frame all up, $870, brown mortar on, $870; completed, $870; balance, $877, 35 days.

Fillmore between Golden Gate ave and McAllister, two story frame. Owner, E. McEarney; architect, T. J. Welsh; contractor, T. Sullivan; cost, $4,500.

Fifth, near Harrison, two story frame. Owner, Jno. Loffler; architects, John & Zimmerman; contractor, C. Roeber; cost, $1,220; signed Aug. 22, 1888; filed Aug. 30, 1888; limit, 30 days.

1st payment, when frame is up, $400; 2d, when roofed, $400; 3d payment, 35 days, $420.

Franklin and Ellis, stair building. Owner Academy of Sacred Heart, architect C. J. I. Devlin; contractor A. Sanborn; cost $2,100; signed Aug. 9th, '88; filed Aug. 17th, '88.

1st payment when the stringers treads and risers of main stairs are in place $1,000; 2d when completed $1,100.

Franklin and Ellis, plastering contract. Owner, Academy of Sacred Heart; architect C. J. I. Devlin; contractor, Martin Carrick; cost $3,550; signed Aug. 8th, '88; filed Aug. 17th, '88; sureties, Flanagan & Mason; amount of bond $3,000; limit Sept. 1st, '88.

1st payment, 1st coat of mortar $900; 2d, hard finish $850; 3d when completed $900; 4th, usual 35 days, $900.

Fulton, No. 426, two-story frame. Owner, Mrs. M. Dowling; architect and builder, G. M. Salsbury; cost, $3,500.

Fulton, near Lyon, two-story frame. Owner, H. Winter; architect, John & Zimmerman; contractor, F. W. Kern; cost, $4,170; signed Aug. 22, 1888; filed Aug. 30, 1888; limit, Dec. 1, 1888; sureties, Joost & Nordwell.

1st payment, when framed, $800; 2d, when brown coated, $1,000; 3d, inside finish ready to paint, $1,300; 4th, usual 35 days, $1,020.

426 Fulton, two-story frame. Owners, Jas. and Mary Dowling; architect, Geo. M. Salsbury; contractor, Geo. M. Salsbury; cost, $3,135; signed Aug. 23d, 1888; filed Aug. 30, 1888; limit, Nov, 22d, 1888.

1st payment, when rafters are set, $1,000; 2d, when building is brown coated, $1,100; 3d, balance, usual 35 days, $1,035.

Golden Gate ave near Larkin, two-story additions and repairs to building. Owner, Carpenter & Son; architect, W. H. Armitage; cost, $6,000.

Golden Gate ave near Larkin two-story additions. Owner, M. Shaff and L. Wilbert; architect and builder, J. J. Cummings; cost, $1,120; signed, August 29th; filed, August 29th; limit, Oct. 1st.

1st payment, $100 one week; 2d, when building is enclosed, $200; 3d, when building is completed, $120; 4th, 90 days from Aug. 29th, $700.

Golden Gate Ave and Polk, brickwork. Owner, Hugh Keenan; architect, C. J. I. Devlin; contractor, C. Ferris; cost $4,380; signed Aug. 2d, '88; filed Aug. 18th, '88; limit 4 weeks; sureties R. Llewellyn and J. Williamson; amount of bond $4,000.

Payments, 75 per cent of work done when wall and piers are ready for 1st story and 1st story walls are ready for 2d story joists and when 2d story walls are ready for roof frames; balance on completion if no liens.

Golden Gate ave corner Polk three-story brick. Owner, Bryan; architect, C. Devlin; mason, C. Ferris; carpenter, H. Keenan; cost, $25,000.

Guerrerro street, additions. Owner, Mrs. H. Kahler; architect, H, Daley; cost, $1,500.

Guerrero st. No. 11, alterations. Owner, H. S. Kaler; architect, R. H. Daley; contractor, Ivory Wells; cost, $1,500.

Guerrero, near 26th, additions; cost $800.

Harrison, near 26th, two-story frame. Owner, Geo. Fuchs; architect, R. H. White; contractor, Rountree Bros.; cost; $4,157; signed Aug. 29, 1888; filed Aug. 31st, 1888; limit, 90 days; surety, Latson & Kennedy.

1st payment, when roofed, $900; 2d payment, brown coated, $800; 3d, primed, $700; 4th, completed, $707; balance, usual 35 days.

Harrison near Sixth, two-story frame. Owner, George Fuchs, architect, R. H., White; contractor, Rountree Bros. cost $4,500.

Hayes between Laguna and Buchanan, two-story frame. Owner, Mrs. M. Tracy; architect, W. Mooser; contractor, J. Bruce; cost, $4,800.

Hyde between California and Sacramento, two-story frame. Owner, Jas. Ford; architects, Schmidt & Shea; contractors, Linden Bros. cost, $3,954; signed, Aug. 17; filed Sept. 3d.

Payments; frame up and enclosed, $740; brown coated, $740; hard finished, $740; completed $744; balance, $990, 35 days.

Howard near 15th, two-story frame. Owner, Henry Haustien; architect, H. Geilfus; contractors, Schutt & Krecker; (except plumbing and painting) amount, $3,950; signed, Sept. 3d; filed, Sept. 3d.

Payments; when frame is up $590; enclosed and partitions set, $590; brown mortar finished, $590; white mortar on, and inside finishes up, $590; all completed, $590; balance, $1,000 usual 35 days.

Howard and 20th, plumbing contract. Owner Nellie G. Barkus; architect J. H. Littlefield; contractor Sweeney & Kearns; cost $688. signed Aug. 3d, 1888; filed Aug. 9th 1888.

Payments $344 when rough pipes are in; balance usual 35 days.

Howard near 15th, two-story frame; Owner, H. Hanstein; architect, H. Geilfus; contractor, Schutt & Krecker; cost, $4,500.

Howard and 10th, grading. Owner, Omnibus Cable Co; architect, Percy & Hamilton; contractor, C. A. Warren, cost $4,540; signed Aug. 2d, 1888; filed Aug. 7th, 1888; limit 49 days; sureties Shain & Richardson.

Payments at rate of 75 per cent as work progresses, balance usual 35 days.

Howard and Natoma, contract for well boring. Owner, Omnibus Cable Co; contractor, Wm. Allingham; cost $5.80 per foot; limit 35 days; signed Aug. 7th; filed Aug. 7th.

Payment at the rate of 75 per cent; balance 35 days after completion.

Howard and 20th, two-story frame building. Owner, Nellie G. Barkus; architect J. H. Littlefield; contractor, Ingeeson & Gore, cost $7,800; signed Aug. 3d, 1888; filed Aug. 9th, 1888; limit Dec. 10, 1888; sureties W. J. Adams and R. L. Taylor.

Payments,75 per cent as work progresses; balance usual 35 days.

Hancock, near 19th, one-story frame. Owner, Dr. Merrill; contractors, Kincaid & Thompson; cost, $2,500.

Jessie, near Ninth, additions. Cost, $1,800.

Jones and Clay, painting. Owner, Magdalena Ils; architect, H. C. Macy; contractor, Geo. J. Smith; cost, $1,595; signed Aug. 6, 1888; filed Aug. 11, 1888.

1st payment, when primed, $350; 2d, when ready to grain, $200; 3d, when ready to varnish, $345; 4th, when completed, $300; 5th and balance, usual 35 days, $400.

Jackson and Pierce, carpenter work. Owner Kate A. Van Wyck; architect Wm. F. Jones; contractor Thompson & Moar; cost $8,250; signed July 8th, '88; filed Aug. 17th, '88; sureties F. Joost; limit 5 months.

Payments 4 installments of $1,537.50, balance usual 85 days.

Kentucky and Solano, one-story frame Owner, John Daly; architect and builder C. E. Dunshee, cost $1,100; signed Aug, 8th 1888: filed Aug. 9th 1888; limit 50 days.

1st payment $300 on or before completion; balance $25 per month at 8 per cent.

Kearney, corner of Commercial, alterations. Owner, Mark Sheldon; cost, $4,000.

Lyon, near Hayes, one-story frame. Owner, W. B. Webster; architect, A. J. Barnett; contractor, R. P. Sanchez; cost, $4,000.

Moss between Howard and Folsom, two-story frame. Owner, J. J. Heinz; architect, W. H. Armitage; cost, $3,000.

Noe, near 17th, one-story frame. Owner, Dr. Blood; contractors, Kincaid & Thompson; cost, $2,500.

New Montgomery, between Filbert and Greenwich, frame building. Owner, Giovanni Guatelli; architect Wm. Mooser; contractor, Davoni & Idralgero; cost $13,000; limit 110 days; signed Aug. 7th, 1888; filed Aug. 8th, 1888; sureties J. Cuneo and G. DeLuca.

Payments 75 per cent as work progresses; balance 35 days.

Natoma, bet 6th and 7th, two-story frame. Owner, Thos. McLaughlin; architect, M. J. Welsh; contractor, R. Sinnott; cost, $3,000; signed July 3d; filed Aug. 14th; limit, 65 days; sureties; Jno. B. Walters and Owen Prunty.

1st payment, when frame is up, $750; 2d, when brown coated, $750; 3d, when completed, $750; 4th, usual 35 days, $750.

O'Farrell, near Laguna, two-story frame. Owner, Franklin Bros.; cost, $14,000.

Post between Pierce and Scott, two-story frame. Owner, Mrs. Julia Chadwick; architect, T. J. Welsh; contractor, J. A. Shepard; cost, $4,837; signed, Sept. 7th. filed, Sept. 11th; limit, 90 days; sureties, J. H. Jones, J. L. Shepard.

Payments; frame up, $1,200; brown mortar on, $1,200; completed, $1,200; balance, $1,237, 35 days.

Polk near Grove, one-story frame. Owner and builder, J. W. Smith; cost, $1,000.

Page between Baker and Lyon, two-story frame. Owner, Michael E. Finn; architect and builder, Geo. Houston; filed, Sept. 11th; cost, $3,696.

Payments; rustic on, $922; brown mortar on, $922; white mortar on, $922; balance, $930, 35 days.

Pierce, bet Sacramento and Clay, plumbing. Owner, C. J. Wingerter; architects, Schmidt & Shea; contractors, S. Ickleheimer & Bro.; cost, $1,443; signed, Aug. 14, 1888; filed Aug. 15, 1888.

1st payment, when rough work is in, $500; 2d payment, when completed, $580; 3d, usual 35 days, $363.

Pierce, bet Sacramento and Clay, two-story frame. Owner, C. J. Wingerter; architects, Schmidt & Shea; contractor, Wm. Pluns; cost, $4,100; signed, Aug. 11, 1888; filed Aug. 15, 1888; sureties, F. and B. Joost; limit, Nov. 4, 1888.

1st payment, when ready to plaster, $900; 2d, when hard finished, $900; 3d, when completed, $900; 4th, usual 35 days, $1,400

Pierce, bet Turk and Eddy, residence. Owner, J. Mackonsy; architect, Wm. Mooser; contractor, J. W. Reid; cost, $4,100; signed Aug. 11, 1888; filed, Aug. 13, 1888; limit, 10 weeks and 3 days; sureties, E. Lundstedt and P. Mitchell.

Five payments, at the rate of 75 per cent as work progresses; balance, usual 35 days

Pine and Octavia, four dwellings. Owner, S. Wenlan; architects, Pissis and Moore; contractor, A. Jackson; cost, $19,388. signed, Aug. 28, 1888; filed, Aug. 31 1888; limit, 100 days.

1st payment, when framed, $4,000; 2d, when brown coated, $3,500; 3d, when hard finished, $3,500; 4th, when ready to paint, $3,000; 5th, when completed, $538; balance usual 35 days, $4,850.

Pine and Octavia, four dwellings. Owner, S. Wenlan; architects, Pissis & Moore; contractor, A. Jackson; cost, $19,388; signed Aug. 28, 1888; filed August 31, 1888; limit, 100 days.

1st payment, when framed, $4,000; 2d, when brown coated, $3,500; 3d, when hard finished, $3,500; 4th, when ready to paint, $3,000; 5th, when completed, $538; balance, usual 35 days, $4,850.

Steiner, near Haight, frame building. Owner, A. C. Christensen; architect, Salfield & Kohlberg; contractor, John F. Grant; cost, $3,667; signed, Aug. 28, 1888; filed, Aug. 29, 1888; limit,—surety, Geo. W. Watson and A. D. Moore; amount of bond, $3,600.

1st payment, when building is brown coated, $1,375; 2d, when completed, $1,375; 3d, usual 35 days, $917.

Sutter, near Gough, additions to school building. Architect. T. J. Welsh; cost, $4,000.

Second, corner of Market, alterations to a part of Grand Hotel. Hussey, Superintendent, $10,000; architect, Smith.

Sanchez, bet 15th and 16th, 2 story and basement frame. Owner, Christana and August Goetze; architect, A. Goetze; contractor, Wm. Pluns; cost $4,220; signed July 10th, 1888; filed Aug 10th, limit 85 days; sureties B. Joost and W. Thyarks.

1st payment when enclosed and roofed $1,000; 2d, when brown coated $1,000; 3d, when completed $1,120; 4th and balance usual 35 days $1,100.

Stockton and California, three story frame. Owner Janet S. Portues; architect and builder, F. E. Neubauer; cost $11,260; signed Aug. 15th, '88; filed Aug. 16th, '88; limit 4 months

Payments 75 per cent as work progresses; balance usual 35 days.

Sumatra and Susquehanna, one-story frame. Owner, B. Sallies; architect W. H. Armitage; cost, $2.800.

Scott, near Jackson, additions. Cost, $4000.

Townsend and Clarence Place, three story brick. Owner, Cal. Elec. Light Co.; architects, Percy & Hamilton; cost, $60,000.

Townsend and Clarence Place, brick work. Owner, Cal. Elec. Light Co.; architects, Percy and Hamilton; contractors, Richardson and Gale; cost, $15,690; signed, Aug 22, 1888; filed, Aug. 28, 1888; limit, 75 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, wrought iron. Owner, Cal. Elec. Light Co.; architect, Percy Hamilton; contractors, Biglow and Little; cost, $3,557; signed, Aug. 22, 1888; filed, Aug. 28, 1888; limit, 60 days.

Payments 75 per cent 1st, Saturday each month; balance usual 35 days.

Townsend and Clarence Place, carpenter work. Owner, Cal. Elec. Light Co.; architect, Percy and Hamilton; contractor, Thos. Day; cost, $11,796; signed, Aug. 22, 1888; filed, Aug. 28, 1888, limit, 45 days.

Payments, 75 per cent 1st Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, Joshua Hendy machine works. Owner, Cal. Elec. Light Co.; cost, $5,175; signed, Aug. 22 1888; filed, Aug. 28, 1888; limit, 40 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, iron roofing. Owner, Cal. Elec. Light Co.; architect, Percy and Hamilton; contractor, Jos. F. Foderer, $2,900; signed, Aug. 22, 1888; filed, Aug. 28, 1888; limit, 20 days.

Payment, 75 per cent 1st Saturday each month; balance usual 35 days.

Turk near Larkin, two-story frame. Owner, Daley; architect, Welsh; contractor, Davis; cost, $6,000.

Treat ave, between 24th and 25th, frame building. Owner J. Qminlan; architect, Geo. Houstan; contractor Geo. Houstan; cost $2,790; signed Aug, 8th 1888; filed Aug. 9th 1888; limit Nov. 10, 1888.

1st payment when rafters are in place $690; 2d, when brown coated $700; 3d, hard finished and inside doors are in place $700; 4th and last $700, 35 days as usual.

Twentieth and Howard, two-story frame, painting. Owner, Nellie G. Backus; architect, J. H. Littlefield; contractor, Jos. Larsen; cost, $460; signed Aug. 3, 1888, filed Aug. 13, 1888; limit, 18 days.

75 per cent as work progresses; balance; usual 32 days.

Twenty-second, bet Harrison and Alabama, residence. Owner, Mrs. D. E. Keeks; architect, M. J. Welsh; contractor, T. Sullivan; cost, $2,375; signed, Aug. 11, 1888; filed Aug. 13, 1888; sureties, F. Joost and W. Thyarks; limit, 70 days.

1st payment, when building is framed, $593; 2d, when brown coated, $593; 3d, when completed, $593; 4th and last, usual 35 days, $596.

Twenty-third near Noe, two-story frame. Owner, Mrs. Roberts; architect, W. H. Armitage; cost, $4,500.

Twenty-seventh and Duncan, alterations. Owner, R. Dhu; architect, M. J. Welsh; contractor, E. Edwards; cost, $1,875; signed Aug. 13, 1888; filed Aug. 13, limit, 60 days; sureties, J. Lewis and P. Swift.

1st payment, when framed, $400; 2d, when brown coated, $400; 3d, when completed, $400; 4th, usual 35 days, $675.

Van Ness and Sacramento, two-story frame, basement and attic. Owner, J. H. Neustadter; architect, Smidt and Shea; contractor, tor, S. H. Kent; cost, $23,950; signed, Aug. 30, 1888; filed, Aug. 31, 1888.

1st, payment, when second-story joists are set $3,500; 2d, floors laid, $3,500; 3d, brown coated, $3,500; 4th, outside finish on, $3,500; 5th, when completed, $3,950; balance 35 days $6,000; limit, seven months.

Van Ness, and Sacramento, plumbing. Owner, J. H. Neustadter; architects, Schmidt and Shea; contractors, Duffy Bros.; cost, $2,985; signed, Aug. 30, 1888; filed, Aug. 31, 1888; limit, seven months; sureties, Watson & Adams.

1st payment, rough pipes in, $900; 2d, all vessels except washstands set, $550; 3d, when completed, $785; 4th, usual 35 days $750.

filed Aug. 28, 1888; surety, C. S. Holmes; limit, Nov. 1, 1888.

1st payment, when frame is up, $825; 2d, when partitions are set, $825; 3d, when, ready to paint, $425; 4th, when completed, $400; 5th, usual 35 days, $825

Van Ness and Sacramento, painting. Owner, J. H. Neustadter; architects, Schmidt & Shea; contractor, J. J. Donovan; cost $1,815; signed Aug. 30, 1888; filed Aug 31st, 1888; limit, 7 months.

1st payment, $600, 2d coated; 2d, completed, $750; 3d, 35 days, $465.

Vallejo, near Webster, dwelling. Owner, D. D. Harris; architects, Pissis & Moore; contractor, C. S. Waterbury; cost, $5,450; signed, Aug. 20, 1888; filed, Aug. 31, 1888; limit, 80 days; sureties, Latson & Holmes; amount of bond $2,000.

1st payment, when framed, $1,200, 2d, brown coated, $1,000; 3d, hard finished, $900; 4th, ready to paint, $900; 5th, completed, $80; 6th, usual 35 days $1,370.

Valencia, between 24th and 25th building. Owner, M. K. Meachem; architect, M. J. Welsh; contractor, J. J. Dunn, cost. $6.550; signed Aug. 9th, 1888; filed Aug. 11th, 1888; limit 75 days; sureties, C. S Holmes and B. Joost.

1st payment when frame is up $1,560;

Remaining Numbers of this year given free to new subscribers for 1889.

2d, when brown coated $1,560; 3rd when completed $1,560: 4th and last, usual 35 days $1,570.

Valencia, near Herrman, additions. Cost, $600.

Valencia, near Sixteenth, additions to brewery. Cost, $800.

Washington and Waverly Place, three-story and basement, brick. Owner, Woo Tam; architect, J. J. and T. D. Newsom; contractor, Dennis Jordan; cost, $3,250; signed, Aug. 27, 1888; filed, Aug. 28, 1888; limit, Nov. 25, 1888; surety, R. Llewellyn.

1st payment, when excavated, $500; 2d, when the first story is up, $500; 3d, when the roof is on, $500; 4th, usual 35 days, $550; $1,200 is to be paid by monthly installments of $100 with interest at 8 per cent.

Webster, bet O'Farrell and Geary, two frame buildings. Owner, L. Houser; architect, J. Marquis; contractor, M. J. Gorman; cost, $10,650; signed Aug. 13, 1888; filed Aug. 13, 1888; sureties, J. Mahoney and Duffy Bros.; limit, 117 days.

1st payment, chimneys up and buildings roofed, $2,050; 2d, ready to lath, $2,000; 3d, when 1st coat of mortar is on, 1 coat of paint and sash glazed, $2,000; 4th, when hard finished, plumbing and all fencing done, $2,000; 5th, $2,500, 35 days; 6th, $100, at 60 days.

Waverly Place near Clay, three-story brick building. Owner, W. Altreuter; architects, Townsend and Wyneken; contractor, J. Pharo; cost $8,000.

COUNTRY BUILDING NEWS.

ALAMEDA.

Work has been commenced upon a handsome residence for Charles L. Hermann, on Alameda avenue, between Chestnut and Willow streets. It will be two stories in height, contain eleven rooms, and will be equipped with all modern conveniences. The cost will be about $4 500. J. A. Leonard, of this city, is the architect.

ANAHEIM.

A. Goldthwaite will give all information in regard to a $6,000 school building to be erected.

CHEHALIS, W. T.

N. B. Coffman can be addressed in regard to a $7,000 school building.

EUREKA, H. B.

Henry Buhne, the tug owner, will build a $10,000 residence. Jas. Simpson has the contract.

FRESNO.

Architect Praum, formerly a partner with Mr. Daley of this city, has taken Mr. Saffell into partnership.

They have let a contract to G. B. Campbell for $10,000 additions to the building of J. W. Ferguson. Also a $20,000 brick building to same contractor for S. W. Griffith; plans are being prepared for Griffith & Co's $5,000 three-story brick building, also for a $7,000 building for P. Myer.

PASADENA.

H. Ridgeway is preparing plans for Mr. B rockaway. A $2,000 brick building is o ntemplated.

PETALUMA.

Work has been commenced on H. B. Higbee's new residence on the Stanley lot. Ed. Hedges has the contract. It will be a one-story cottage and have all the modern improvements.

PORTLAND, OR.

Architect Kleeman has let a contract to Works & Gilbert for a $1,500 cottage for J. Barbey.

SHELTON, W. T.

A hotel building is being erected by Wm. Shorter.

SAN DIEGO.

Architects Clemments & Co. notify us that a portion of the Hamilton Building will be erected at once. The total cost will be near $400,000.

Henry Timkin will erect a $9,000 residence, he having let the contract for same to Brewster & Whalen.

Comstock & Trotsche send us word that they are preparing plans for improvements to the Consolidated National Bank. Will cost nearly $60,000.

SEATTLE, W. T.

S. Frauenthal will soon build a $10,000 house.

SCARCITY OF MASONS—Contractors complain that brick masons are very scarce in Seattle, while the bricklayers' union claims that there are plenty of masons here to do all the work on hand at the present time. This indicates an unaccountable difference of opinion between the contractors and the masons.

Two large school houses will be built. Total cost over $100,000. Address contractor Jas. Parke, for information.

SAN MIGUEL.

G. W. Spencer will have erected a brick building.

A $1,000 hotel is being contemplated.

W. J. Smith will soon commence a five-room cottage for Amos Whittemore.

Work will soon commence upon a five roomed cottage for Amos Smith. W. J. Smith has the contract.

SAN BERNARDINO.

Architects Jones & Griffith yesterday let a contract to W. G. Hastings to erect two five-room cottages on G, between Second and Third, for Major B. B. Harris.

Wendell Easton, of Easton & Eldridge, the great realty firm of California, has aptly said that in architecture Los Angeles is entering upon the "stone age." The progress is from adobe to frame, from frame to brick, from common brick to pressed brick, from pressed brick to red stone and granite. Our new quarries will soon inaugurate the "marble age."

SANTA CRUZ.

The plans are being figured on for an Odd Fellows' Building. Address D. A. Damkroeger.

SAN JOSE.

S. Ellsworth is having a house built on his Saratoga avenue property.

TACOMA, W. T.

Architects Farrell & Darmer have plans for Birmingham & Hogue's $20,000 three story brick building, and also for an $18,000 brick building for Geo. B. Kandle.

Rev. G. H. Greer will have built for him by H. M. Matheson, a $12,000 brick building.

RIVERSIDE.

Dr. S. R. Magee is building a fine residence on Magnolia avenue.

Work will soon be commenced on a handsome new residence for Mrs. Chalmers, the plans for which have just been prepared by A. C. Willard. The building is to be erected on Magnolia avenue and when completed will cost about $8,000.

A. C. Willard has severed his connections with J. C. Pelton, Jr., and has just opened an office in the Castleman block, where he i s prepared to execute plans and drawings for any and classes of buildings.

The plans are out for the building to be erected at the corner of Eighth and Orange streets, and it is expected that work on the building will be commenced within eight or ten days. The building will have a frontage on Eighth street of 75 feet. It will be three stories high, and when completed will be the handsomest block in the city.

The accepted plans for a new residence for R. S. Crombie are now ready. They were drawn by A. C. Willard, and are of the Queen Anne Eastlake style of architecture, and will go into the hands of the contractors the first of the month to make bids. The building is to be erected on Orange street between Thirteenth and Fourteenth and will be a two-story eleven-room house.

Contract was let September 1st to J. L. Woodward for a building for G. N. Reynolds.

Pottinger & Kroonen have commenced building the house for Mrs. J. S. Johnson, on Orange street, opposite the Glenwood. It is to be a two-story eleven-room house.

Work has been commenced on the new building to be erected by A. H. Naftzger, A. Haeberlin and Down & Alguire, at the corner of Eighth and Orange streets. It will be two stories with fifty feet frontage on Eighth street, and running along Orange street ninety feet. It will be an imposing structure, built of pressed brick with red Arizona sandstone trimmings. The plans for the building were drawn by J. C. Pelton, and the contract for the brick and stone work was taken by Down & Alguire.

LIVERMORE.

All the carpenters in town are very busy at present.

John Beck is improving his property by the addition of a large stable.

The contract for the erection of Philip Anspacher's new cottage, corner of L street and College avenue, has been let to Capt. A. J. Palmer, of this place, and ground was broken last week. The work will be pushed rapidly forward. This will be one of the handsomest cottages in our town.

Jos. Fletcher is building an addition to his cottage.

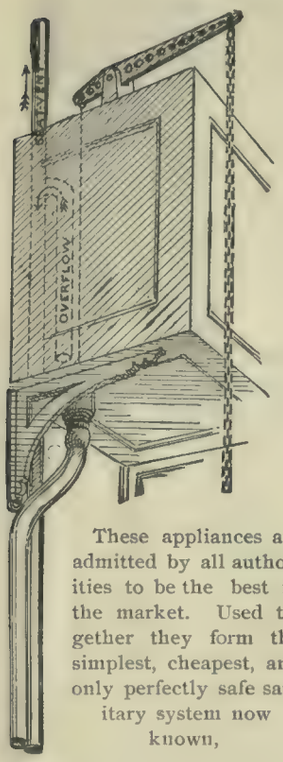
VICTORIA, B. C.

Fisher & Wilson have let contract to Elford & Smith for a two-story brick building.

SAN PEDRO.

A school house to cost $2,500 will be built. A. G. Barton has the contract.

Remaining Numbers of this year given free to all new Subscribers for 1889.



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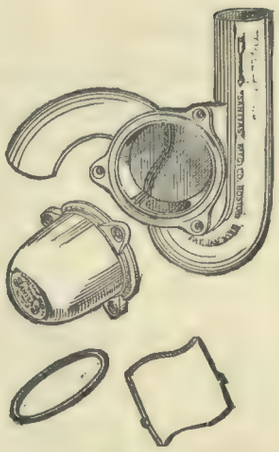

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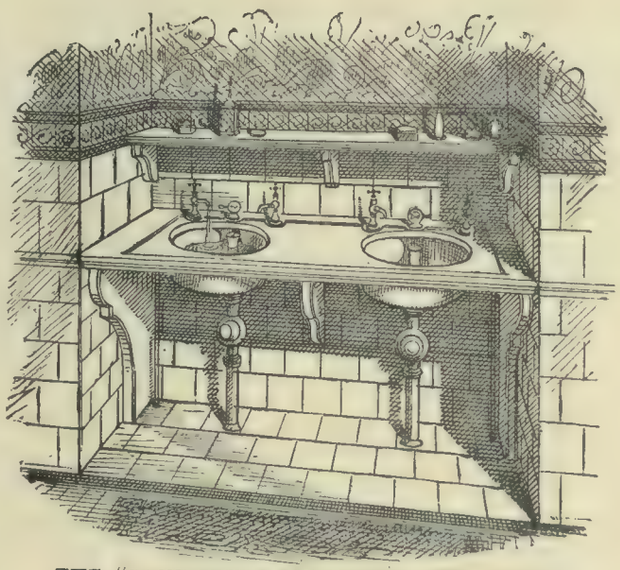

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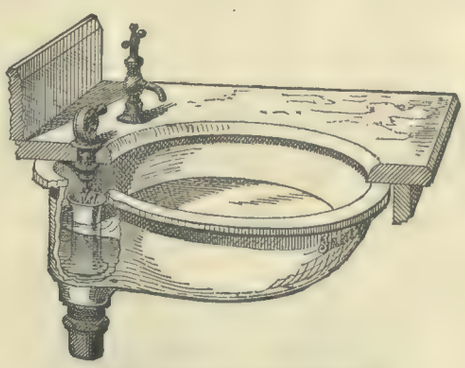

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Buckley, Frank,	1111 Devisadero.
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Chisholm, Dan,	110 Chattanooga.
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Conrad, H. A.,	625 California.
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Day, Thos. H.,	1012 Devisadero.
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Dryer, Bernard,	4 Collingwood.
Dunn, J. J.,	615 Jessie.
Dunshee, C. E.,	417 Ridley.
Edwards, E. W.,	116 Langton.
Elam, Thomas,	511 Sanchez.
Ellis, B. F.	999 Chestnut.
Farrell & Bell,	828 Union.
Fish, J. W.,	836 Valley.
Fitzpatrick, A. G.,	411 Twenty-second.
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Geary, James,	2324 Sutter.
Gillespie, G. G.,	1503 Devisadero.
Gonyeau, J. B.,	33 Hardy.
Gorman, M. J.,	527 Octavia.
Grant, John T.,	22 Turk.
Gray & Stover,	1310 21st.
Greene, E. B.,	34 Hawthorne.
Greene, S. T.,	San Diego.
Griffin, P.,	20 Russ.
Hoffmann, Victor Jr.,	515½ 4th.
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Hatch, H. E.,	1717 Chaste, Oakland.
Hurlbut, R. P.,	115 California avenue.
Irwin, James,	908 16th.
Ingerson & Gore,	971 Broadway, Oakland.
Jackson, A.,	12 Middle.
Keenan, Hugh,	219 Scott.
Kent, S. H.	711 Leavenworth.
Kern, F. W.,	118 Fair Oaks.
Kincaid & Thompson,	730 Seventeenth.
Klahn, Aug.,	5 Chenery.
Klatt, F.,	814 Twenty-first.
Klein, Jacob, 24	Lilly avenue.
Kreger, Wm. B.,	801 Guerrero.
Lang, Geo. R., E. 14th St. & 14th Ave.,	Oakland.
Leonard, Jos. A.,	Alameda.
Langstaff, Wm.,	617 Jessie.
Lynch, M. C.,	28 Stanley Place.
Mahony Bros.,	307 Van Ness.
Maher, J. W.,	105 Precita avenue.
MacDonald, Allen,	1303 Buchanan.
Martin & Maguire,	133 Gough.
McCann, Richard,	217 Waller.
McElroy, A.,	373 Jessie.
McInerny, James,	Hancock and Noe.
McKay, Jas. H.,	124 Main.
Mead, W. H.,	246 Minna.
Mecredy Bros,	Church, bet 17th and 18th.
Miller, Adam,	23d and Bryant, 516 Kearney.
Moffit, Thos.,	Victoria.
Moore Bros.,	252 Octavia and 1 Russ.
Norton, A.,	1331 Ellis.
Parker, R.,	527 Grove.
Plums, Wm.,	3109 Sacramento.
Quinn, Charles,	133 Oak.
Rebman, J.,	Los Angeles.
Reichley & Vierhus,	1910 Market.
Riddell, Thos. C.,	16 Twelfth.
Robertson, John,	San Rafael.
Rohling, Henry,	14 Collingwood.
Rountree Bros.,	919½ Oak.
Sanches, R. P.,	653 Capp.
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Simpson, R. F.,	326 Telegraph Ave., Oakland.
Sinnott, Richard,	1321 Guerrero.
Smilie, Robt.,	1125 E. Third Av. East Oakland.
Smith, James W.,	1220 Eddy.
Sullivan, Timothy,	20 Laskie.
Taubman & Armstrong,	3109 Mission.
Terrill, Chas. C.,	617 Seventeenth.
Thompson & Moar,	338 Golden Gate Av.
Townsend, H.,	Alameda.
Waterbury, C. S.,	1322 Scott.
Wharff, Wm. H.,	Green and Laguna.
White, O. E.,	879 Seventeenth.
Wilcox, J. R.,	608 Willow Av
Williams, F. A.,	545 Natoma.
Willis, A. A.,	30 Diamond.
Worden, S. G.,	1013 Valencia.
Zwierlein & Pavel,	421 Bush.

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THAT The old standard weights of Roofing Plates were 112 lbs. per box IC 14x20, and 224 lbs, per box IC 20x28—112 sheets per box?

THAT Severe competition and a desire for low-priced plates caused those weights to fall to 108 and 216 lbs, respectively.

THAT Most of the so-called extra coated Roofing Plates to-day do not weigh over 110 lbs. per box IC 14x20, and 220 lbs. per box IC 20x28.

THAT It is nevertheless claimed for many of these brands that they carry 20 lbs. of coating per box of 14x20, and 40 lbs. per box of 20x28?

THAT Any one who will investigate the matter will at once see that the claims referred to in paragraph 4 are entirely disproved by the facts mentioned in paragraph 3?

THAT We guarantee the **"GILBERTSON'S OLD METHOD" Extra Coated Roofing Plates** to average not less than 120 lbs. net per box IC 14x20, and 240 lbs. per box IC 20x28?

THAT We **guarantee** the coating to be from 18 to 20 lbs. per box for the 14x20, and 36 to 40 lbs. per box for 20x28?

THAT The above facts show the impossibility of placing the **"GILBERTSON'S OLD METHOD"** on the same level as other old style plates, either as regards price or quality?

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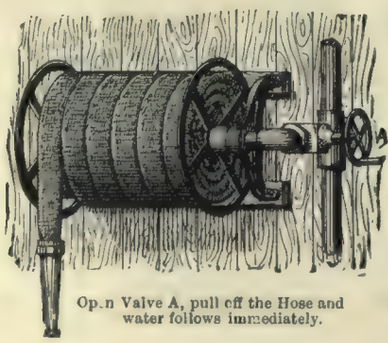

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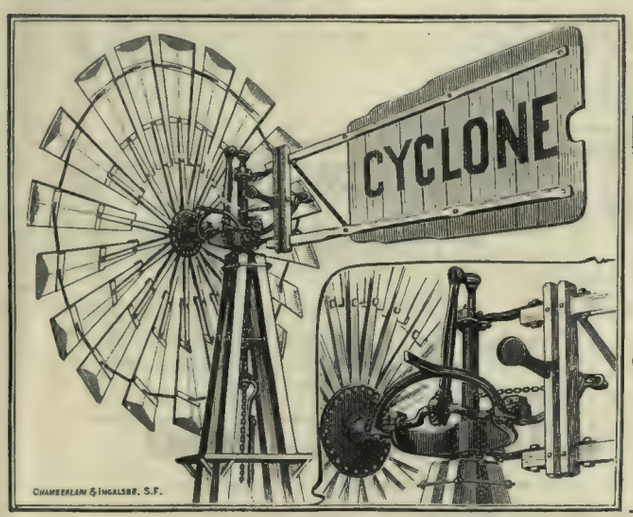

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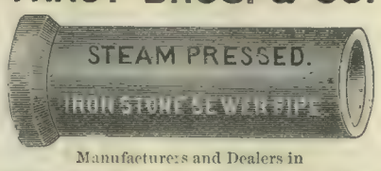

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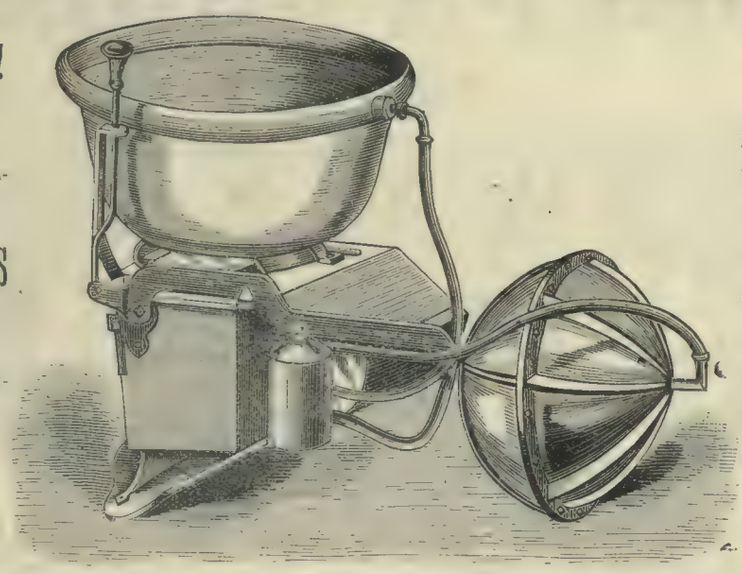

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This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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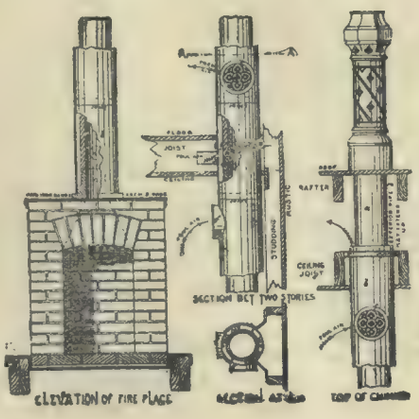

VENTILATION, ETC.

At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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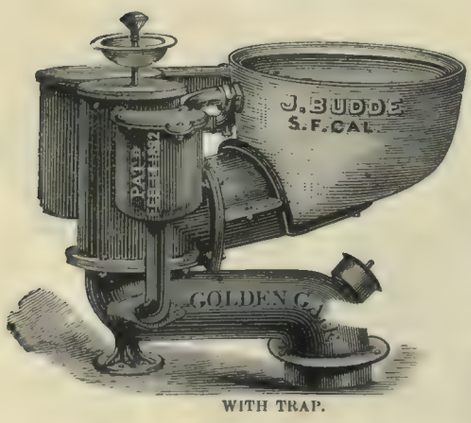
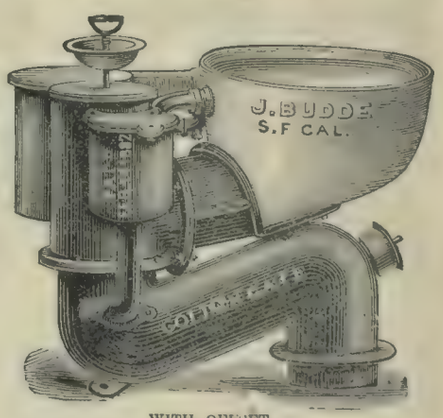


WITH TRAP.

The Golden Gate Plug Closet.



WITH OFFSET.

This Closet is the best of its kind, having been so far constructed, it has the following advantages:—

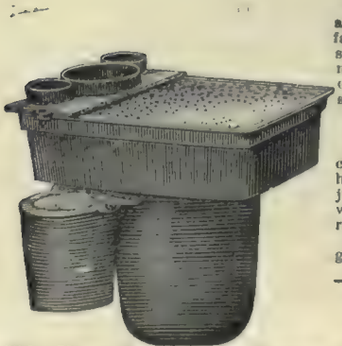
1. It has a simple, strong valve, suitable for any pressure.

2. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on face of the brass overflow pipe, operated by the rising of the water in the closets above its level, thus absolutely preventing any escape of sewer gas, even the closets being without water.

3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

This Closet takes the lead; it has been sold since February, 1885, in large quantities to the best satisfaction.

THE COMBINATION HOPPER.


Side View, Combination Hopper

This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

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This Closet is superior to all others, every working part and bolt being made of brass, closet and valve extra heavy casting. Particular attention is called to No. 4. This Closet has an oval basin fastened to the cover by brass clamps and bolts. No breaking of putty joints required to renew a pan. The loosening of two large brass nuts will separate cover with basin from the receiver. It has a heavy nickel plated cup and pull and solid brass rod.

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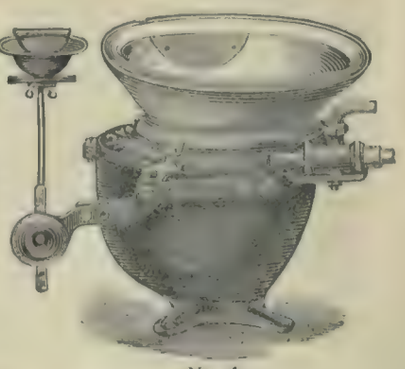
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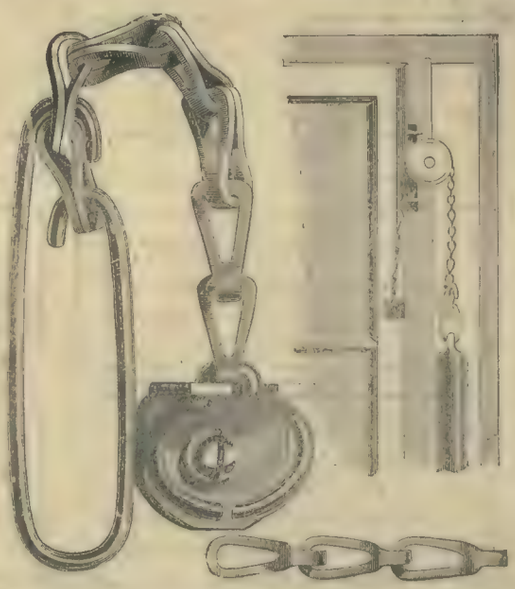

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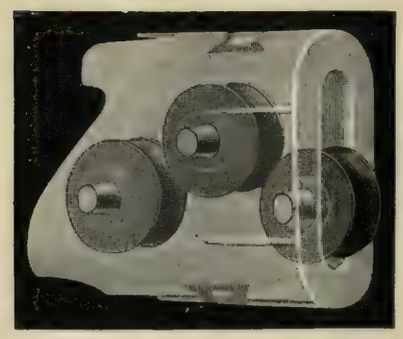

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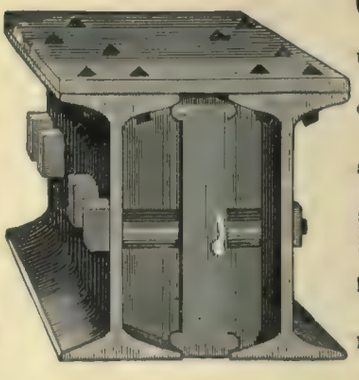

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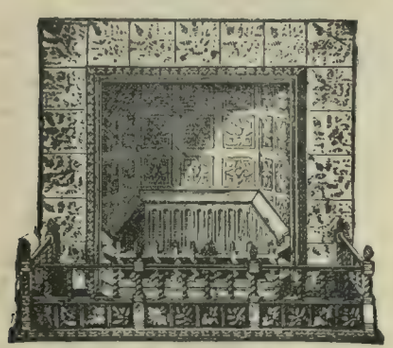

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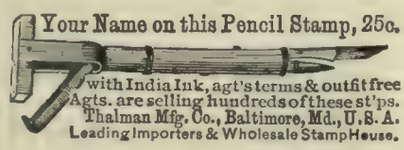
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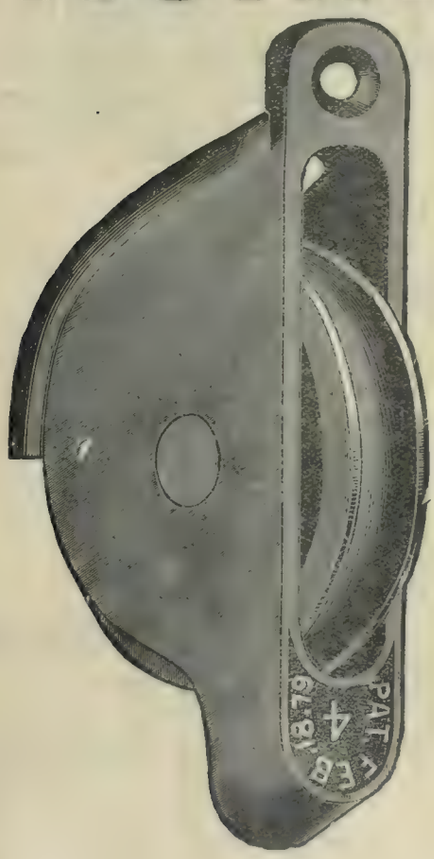

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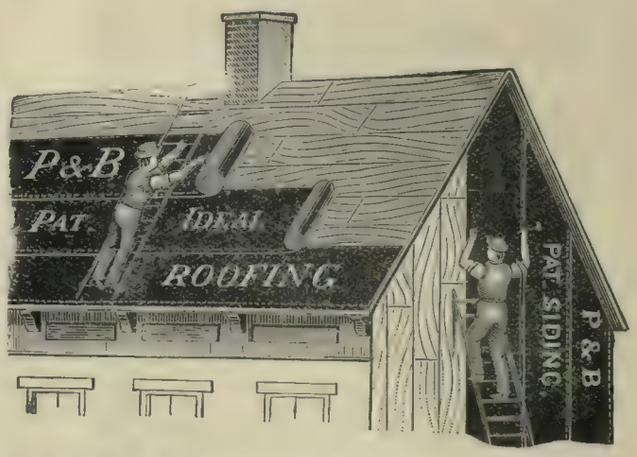

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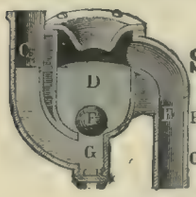

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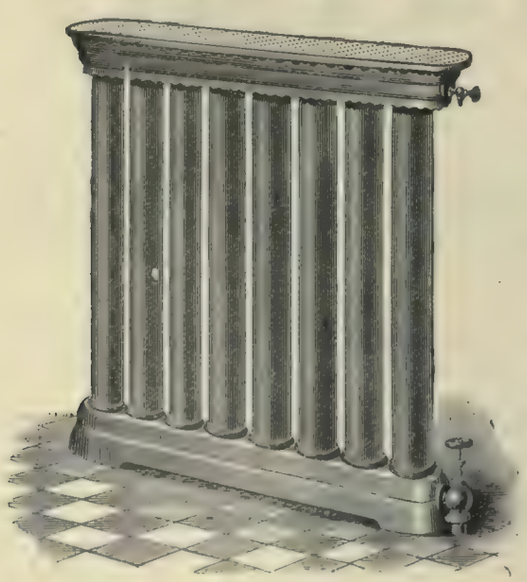

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THE

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SAN FRANCISCO, OCT. 15, 1888.

But Seldom We Speak of Ourselves.

Without being egotistical we may safely say that this number of the California Architect exceeds any of its predecessors in the amount of valuable reading matter furnished to its subscribers. It contains:

An Editorial on the New City Hall Tower.
Proceedings of the Chapter of Architects.
President Sander's masterly Address.
The New Plumbing Law.
A very interesting letter from E. C. Gilbert.
Report in full of the Committee on New City Hall Tower.
A complete summary of City Building News.
Country Building News.
List of members of Builder's Association.
Superb Illustrations.
An instructive article by Arthur Seymour Jennings.

And many other notable features. A steady improvement will be noted in each successive issue.

An Extra Edition.

For the past two months we have largely increased the number of our monthly issue. In December we guarantee to print 5,000 extra copies, which will be sent to parties all over the Coast who are interested in building matters.

SUBSCRIBE NOW FOR 1889.

Weekly Building News.

We are making arrangements to re-establish the Weekly Building News. One of our largest real estate dealers will assume control of the department devoted to transactions in real estate. Taken in connection with weekly building reports, we will present a complete record of all transactions benefitting directly those who build and those who furnish materials after dwellings are erected.

The City Hall Tower.

SINCE the first move was made toward the erection of the New City Hall, no one feature of the construction has attracted more general attention, interest and comment, nor provoked more pronounced controversy and disagreement as between the gentlemen composing the Board of Commissioners, than the tower.

To the architect it has been a very hard nut to crack, and the insignificant stipend pocketed by him each month in the shape of salary is a miserable compensation for the numerous annoyances alone encountered, to say nothing of the time, services and skill required of him as an architect. That he has and should have pride and ambition in the matter is both natural and reasonable, and it would be much less than fair to attribute wrong motives to him in striving to carry out and complete, according to his best judgment, so conspicuous and important a part of the work on the City Hall as the tower, which, if he is allowed to proceed with, must stand for all time as a monument to his architectural skill and genius, or stamp upon his name and memory all the ignominy that failure to produce a handsome, well-proportioned and properly-constructed tower will entail. Professionally, it will be life or death to him, as present and future generations will associate his name with praise if good, and reprobation and condemnation if he shall produce an architectural deformity at the expense of the public treasury. All this Mr. Laver undoubtedly well understands, and, as a sensible and intelligent man, has fully weighed and considered in his earnest efforts to have his high-tower plan adopted by the Commissioners and carried into execution; and, if the option was left with him, not a day of the time required in the construction of the tower would be lost. Is Mr. Laver wedded to his high-tower proposition? There can be no question upon that point, as he, with many other competent critics and judges, is satisfied that, if erected, the architectural delineations will be imposing and handsome in detail, and the general effect such as to command admiration from those whose esthetic eye and good judgment are capable of seeing and accepting the products of other minds than their own, upon the real merits of the thing produced, divested of all selfish and prejudiced cavillings, which, when applied, will see nothing except from the limited standpoint of their own individual notions.

It may be charged by some that this style of reasoning is inconsistent on the part of this journal, in view of the facts connecting the writer with a report made to the City Hall Commissioners upon the subject matter of this article. If so, we do not see it in that light. We have taken no decided stand in the matter, nor in any way expressed a fixed opinion in favor of or against any "type" of tower. And it appears to us that the question under review and all others, whether square, round or polygonal, have more than one side, to comprehend which, each must be viewed from a proper standpoint.

Mr. Laver, in his recent defense before the Board of Commissioners, very naturally and reasonably commended and argued the force and value of the reports of the two well-known civil engineers named by him, whose qualifications none will question, as against the report of the Chapter of Architects. Mr. Laver would not have been just to himself had he not done so, as the report of the former fully recommended and sustained the carrying out of the high-tower plans, while the latter simply commended said plans as good in architectural design and possible of construction, and further suggested and recommended a change of "type of tower." But this suggestion was a disturbing and interfering element, which furnished Mr. Laver's opponents a new battle-axe and subjected him to new and increased difficulties. The two reports concur on some of the propositions involved but differ on others—one in nearly every particular sustaining the architect, the other doing so as far as the judgment and opinions of the chapter thought right, with suggestions added which it was hoped would lead to an amicable and intelligent settlement of all differences of opinion, and result in the erection of a tower satisfactory to all parties directly concerned in its construction, and which would meet favor in the eyes of the community, who are to be the payors for whatever may be done.

VERY IMPORTANT PROCEEDINGS, S. F. CHAPTER OF ARCHITECTS.

Inaugural Address of G. H. Sanders, President of the Chapter.

A goodly attendance of members was noted at the last meeting of the Chapter. Among those present were W. J. Cuthbert son, J. B. Whittemore. H. T. Bestor, J. Gash, R. H. Daley, A. Pissis, W. P. Moore, E. Kollofrath, G. H. Sanders, G. H. Wolfe.

G. W. Percy, W. Patton and John Newsom were elected members as Fellows.

Proposition received from C. Herbert Hasty to become a Student Member. Referred to Committee.

President read annual address, which was ordered printed in the official organ of the Chapter. (It will be found in full in this issue.—Ed. Architect.)

A vote of thanks was tendered the President for his able address.

A communication was received from the Secretary of the New City Hall Commissioners requesting the Chapter to examine the revised plan of the tower, as prepared by Architect Laver. Plan of same accompanied the communication The same was referred to the committee who had charge of the previous report.

Following is the report in full of the Committee appointed by the Chapter to consider the plans of the New City Hall tower:

To the San Francisco Chapter of the American Institute of Architects:

Your Committee appointed at the last regular meeting to consider the resolutions of the New City Hall Commissioners in reference to the proposed tower, beg leave to report, as follows:

Immediately on their appointment, your Committee made arrangements to prosecute the task imposed upon them, and on the day succeeding their appointment, called for and received the necessary drawings and other data requisite to enable them to proceed.

Having made a thorough and repeated examination of the drawings submitted for their inspection, have unanimously arrived at the following conclusions:

First.—They consider that the design submitted by Mr. Laver for the New City Hall Tower is in itself well adapted in its external architectural features, to complete and adorn the building to which it is to be added. The hight—which has been more or less called in question—is considerable, but is not, in the opinion of the Committee, in excess of the proportions permissable in so vast a structure as that to which it is to be applied. On the contrary, in view of the enormous frontage and other dimensions of the New City Hall, it would be difficult to fix an assignable limit, beyond which it would not be possible to harmonize and proportion a structure of this description under given conditions.

They find, also, that the mansard roof, so called, in both the modified as well as the complete example exhibited in the drawings submitted to the Committee, while serving to fill up and prepare the structure for the reception of the tower, is by no means indispensable; at the same time it establishes the fact that should additional space be at any time required, the same may be obtained by its addition, with advantage, whenever deemed desirable.

They find, however, upon examination of the internal structure of the proposed tower, that on account of the position and nature of the bearings available, it will be necessary to construct it in iron instead of the solid material composing the walls of the completed portions of the building. They also find that in order to perfectly adapt the designs submitted by Mr. Laver to the existing structure, some additions to or modifications of the plans submitted to the Committee seem necessary; but these, considering the comparatively and unnecessarily immature condition of the drawings are probably intended by Mr. Laver in the final execution of the work when determined on. In the mean time your Committee, with this proviso, beg to suggest that in their opinion, to secure the entire stability of the superstructure, the iron beams forming the foundations of the whole should be extended under the projections at the angles of the tower, no provisions for that purpose appearing on the drawings as submitted to the Committee They also think that a broad sill plate composed of wrought iron beams and top and bottom plates should be placed on the circular brick wall surrounding the great circular hall under the tower. This would serve to equalize and distribute all unequal strains and bearings, and rectify any possible defects in the foundations of this part of the building. The Committee deem this provision absolutely necessary, for though the construction of the tower (which is of wrought iron, steel and sheet metal) is of the lightest practical description; the weight of the whole tower will be in the neighborhood of three thousand tons. But dead weight alone is not the only consideration, since the variable strains caused by windage will be very considerable, under even ordinary circumstances, and there are times when, at such a hight, the velocity of the wind will mean several hundred tons added to the ordinary weights at different points of the circle.

Second.—For the above reasons, while the Committee have full confidence in the ability of Mr. Laver to carry to completion the excellent design proposed by him in as satisfactory and substantial a manner as is possible under the circumstances, and with the materials at his command, they feel compelled to say in view of the various objections which may be urged against the erection of any structure of the sort proposed, that they believe some such type as that adopted by the first Commissioners, would be found on the whole, more suitable for the purpose than the new and loftier design, though in the nature of things, less imposing in appearance and less in proportion to the size and importance of the building. The difficulty and expense of keeping such a structure in repair and proof against the destructive effects of climate and season, is a powerful argument, though one of an economical rather than artistic nature, in favor of reducing as much as possible the area, and especially the hight of the exposed surfaces. And here your Committee would suggest that instead of employing materials, such as galvanized iron or steel in the external casing of the tower, which would need the preservative applications of some sort of paint, and would lead, as before stated, to endless repairs, they are of opinion that the use of copper, though of greater prime cost, would in the end prove of much more economical and of vastly greater architectural value, as it is a material beautiful and artistic in its application and effect, and eminently durable and in every way admirably adapted to the work proposed.

Third.—This brings your Committee to their last and final position. While they fully concede the many points of artistic merit as a whole, of both designs exhibited in Architect Laver's projects for the proposed tower of the New City Hall, and while they are quite ready to admit the *possibility* of their construction with safety and substantiability compatible with materials of such a perishable nature as those rendered necessary by the adoption of the peculiar method of construction hitherto submitted, they are not so ready to admit the *advisability* of such a course; and in view of the conditions existing in the present building, consisting as they do, of a great circular chamber, some 80 feet in diameter, surrounded by a massive brick wall, and including a circular peristyle of columns some 60 feet in diameter from centers, they believe that the possibility exists of erecting a perfectly unique structure in the form of a circular tower, or dome tower, which would offer features superior to any square structure yet proposed, and that before either of the designs now before the Commissioners are finally decided upon, it would be advantageous to furnish, as an alternative, such a design—homogeneous in material, with the existing building and equal to it in durability, and as free from necessity for endless protection and renovation.

Such a structure, we believe, would not only redound to the credit of all concerned in its production, but would ultimately be found to be of great economical advantage to the city generally.

It would be of a hight proportioned to its possible diameter, and would compensate in dignity of material for comparative lack in magnitude, though a tower or dome of more than ninety feet in outside diameter, is one out of which it would seem that a very grand and imposing structure could surely be evolved. All of which should be left with confidence to the well-known genius and artistic ability of the architect of the building.

Respectfully submitted,

ALBERT PISSIS,
JAMES E. WOLFE,
B. E. HENRICKSEN,
W. J. CUTHBERTSON,
JOHN WRIGHT,
Committee.

San Francisco, Sept. 17, 1888.

INAUGURAL ADDRESS OF G. H. SANDERS, PRESIDENT OF THE CHAPTER.

Fellows and Associates of the San Francisco Chapter :

Duly recognizing the honor and responsibility of addressing you a second time in an "Inaugural," and acknowledging also the ground of expediency which brought this about, I can only promise to fulfill this, and the succeeding duties of so important an office during the following year, as well as I know how.

It is conceded that an address of this kind should aim at something more than a mere review of a year's progress, seasoned with a few glowing prophecies of future advance in matters architectural.

So far, indeed, as the Chapter and its work and prospects are concerned, it may be said that we have not been altogether standing still, but that some advance has been made towards winning a position of honorable usefulness and gaining the confidence of the public in matters relating to the important province of constructive taste.

Our membership has somewhat increased during the year, and there has been a marked tendency among professional brethren still outside our society, to cast in their lot with the Chapter. This is a movement which should meet with every encouragement on our parts, as every added member widens our influence, increases our means of general utility, and brings us more and more *en rapport* with every portion of the building public and the constructive problems of the day.

It would be easy to tell a long story of our aspirations and our aims, about which indeed, we are apt to talk much and do little.

Perhaps it will be better worth while just at the present time to say a few words about a man who, though leaving but little so far as formal expressions of thought in set phrases is concerned, has left large evidences on every side of having done more to solve the problem of the architecture of the future, at least in America, than any other man of this or any age, for the time in which he lived—I allude of course, to the widely influential name of "Richardson." In some degree, like Phidias among the Greeks, or Michael Angelo among the Moderns, but in a wholly different way, the man, Richardson, lived and worked among us—well known and respected while he lived, but who bids fair to be better known and still more widely respected, nay revered in his works, and the example which those works place before the impressionable minds of the men of this age and nation—I repeat of *this* age and nation, for who can doubt that as the age is made by men, men are also made for each particular age, and by each particular age; in other words, are the outcomes of the times in which they live, and of their peculiar environment.

Now, as to this man, Richardson, I propose in the following remarks to elucidate from his works as well as I am able, some of the principles of design which have made this particular artist and professional man, at this time, so notable a figure in the foreground of architectural art.

In the first place I would say that I do not propose to give anything like a regular review of the man or his works, though an admirable basis is laid for the same in the notable book of Mrs. Van Renssalaer on the life and works of Richardson, lately published, and to which I am indebted for such authentic data as may be found in what I shall read to-night.

Born in 1838, of noble ancestry, (among which, on the mother's side, may be mentioned the well-known philosopher, divine and author, Priestly) educated at Harvard, and professionally trained at the Ecole des Beaux Arts in Paris, the man was undoubtedly broadened out into a very cosmopolitan character, and on that very account was doubtless better fitted than any other man of his day and generation for the life work which fell to his lot. He was constitutionally a large bodied, large hearted, large minded man, who wanted everything about him as "big" as himself, and who, almost immediately throwing off the superficial effect of his education and training, forthwith set to work with stone-axe and gavel, unfettered by rules and untramelled by precedents, to hew out a system—an architecture for himself, for his clients, and for such of his brother architects who would follow in his footsteps, or at least join him in exploring the new fields he had discovered.

It was inevitable with such a character as his, but that the type of his selection, as regards style, if type he must have, should be full, large and capacious as himself, and nothing could better fit his fancy than the massive and ponderous features of the round arched styles of Southern France. But in his hands it assumed a new guise. With him, pillar, arch and lintel seemed to become vitalized into a new existence. Base, shaft and cap seem to be so united and so well fitted for their purpose, that no other shaft, base and cap could by any possibility be devised which could do their work equally well in any other way; the arch becomes a new creation, each vousoir is in its turn the only vousoir in the whole arch, and every lintel would rest quietly under the weight of the whole world and never wake up. Every window becomes in turn the most important window in the structure, and every part of it is so thoroughly adjusted to every other part that it is without a peer among windows in its particular place and station. The wall surface is so carefully studied and adjusted, that it is difficult to find fault with a single stone.

The settled purpose he always had before him was absolute perfection in every part. One notable quality of the man, however, was the devoted zeal which he seemed to inspire in every one around him; they worked for him as they worked for no other man, and as if each was responsible for the whole, and so each and all conspired to carry out his suggestions in the most thorough manner, as the only way of securing the best result in the whole, so that every part of the work on his buildings shows indefatigable industry and zeal in those who have executed it. A piece of carving is wrought as if it was the only carving in the structure, and worked out with a care and minuteness, and such regard for the whole result, as if the artistic effect of the structure depended on it alone.

Every window, door, turret, column, arch, lintel, or feature of whatever kind is carefully designed and laboriously adjusted until each fits into its place like a wheel in a complicated mass of machinery, and each of which is indispensable to the action of the whole system.

Apply the above remarks to each department and to each material throughout a building, inside and out, and it is easy to see the thorough "technical" quality which would be certain to pervade the structure. But not alone this more strictly utilitarian element with its three subordinate attributes of utility, strength and adaptation or fitness, is to be thought of as entering into the sum total of the design, but considerations definitely ornamental must claim a still larger share of careful study in proportion to their higher artistic value in the domain of art. Every part must be carefully and completely subordinated to every other part and to the whole, so that every design must have entire unity of effect, and not only as to its general forms, but each detail, however unimportant, must be subjected to the same careful scrutiny, consideration and re-consideration—and this as regards color as well as form, even to the veriest shade.

Decoration, both in form and color, must be made truly ornamental. Every particle of ornamentation must be made in its turn as thoroughly a part of the building and as indispensable as any other merely utilitarian feature; it must be properly distributed as regards the whole, as well as within its own limitations. It must be thoroughly satisfying to that sixth sense, as it has been called, the sense which is capable of appreciating the subtile qualities of beauty styled "Æstheticos" by the Greeks (and meaning that which is capable of affording pleasure to the senses), and this as regards both form and color and arrangement of both, and not of individual parts alone, but of the parts in relation to the whole, and the whole to its parts.

Thus again we have a trine, the Æsthetic series of attributes—decoration or ornamentation, symmetrization and beauty. But we must take higher ground still if we would adequately grasp the full meaning and intent of the remarkable work of the remarkable man we are considering. As the swelling undulations of the wide-spreading plains are to the sweeping lines of the rolling hills, even so are these hills to the lofty mountains around whose feet they group themselves in humble yet contented emulation. And so are the exaltations of mere technical utility with such incidental and inseparable pleasure-giving qualities as arise from recognized adaptation of material and purpose, to the vastly greater and more exquisite results of ornamental qualities sought for their own sake and capable of gratifying the yearnings of the human soul for the beautiful ; and these again to those pure aspirations of the intellectual faculties of the mind, rising far above the illusions and seductions of sense into the lofty regions and untainted atmosphere of Truth. Under the austere supervision of this high principle, *Nee Vile fanos* becomes a potent and most all-pervading legend, written in effect on each substance, form and subject throughout the whole realm of design, from the lowest foundation stone to the highest finial, from the outermost outline to the innermost recesses of the material temple ; all things therein become representative of the designer and embody and incarnate him in his work. Every virtue and every vice, which either strengthens or weakens the creative power of thought, will

find its corresponding impress on the substance and form of every structure which has been evolved out of his consciousness or has obtained the seal of his approval.

And it is manifest that this principle in its turn, will pervade everything which is the subject of the designer's art, from the most utilitarian arrangement of plan to the highest expression of his skill in sculpture and painting. In the first it speaks in mechanical adaptation of means to ends; in the latter it voices itself in distinct symbols—modified by more or less powerful expression, into an utterance of ideas—simple or complex, as the case may be, and capable of telling the most momentous truths, with all the added force of dramatic incident and forcible illustration.

This highest, or "phonetic" phase of the architectural art thus also includes a trine of attributes, viz: Symbolical form, artistic expression, and ideal representation.

It is not claimed that all these particular and more or less complicated expresions of analytic thought found any definite utterance in the words or expressed ideas, or even had a conscious existence in the mind of Richardson. It is only claimed in that so far as the above sentiments and principles, crudely expressed and imperfectly formulated as they are in this paper, may be found embodied in the works and example of this man who was so earnest in his efforts to establish and promulgate true art; he has left an impress on the age, and has aroused a taste for the substantial, the beautiful and the true, which no other man of the present century, or few before him, have succeeded in accomplishing, none indeed in so brief a period as the active portions of Richardson's life really covered. He constantly sought in the evolution of a design, to obtain a single broad and comprehensive idea, and every subordinate part was carefully studied and brought into harmony therewith. In every department of the execution, and in every subordinate feature, truth of form, truth of material, truth of expression, with few and only early exceptions, was sought for with unswerving devotion.

In the often elaborate carvings which adorn his works, this is constantly found to be the case. Not contented with good general forms, authentic detail, graceful curves and some sort of ideal character, every part of even the least important feature is arranged with scrupulous attention to its relative effect in the whole composition. The beauty and grace must be of the right sort and harmoniously adapted to every other bit of grace and beauty found elsewhere in the structure, and the ideality must be expressed in consistent terms. Another notable point was his attention to materials. They must be of the best and carefully selected as to both quality and color. Again they must be properly placed. No degradation of a nobler by subordination to an inferior substance in the general construction is tolerated for a moment—stone, brick, metal, wood, plaster or glass must be of the best attainable quality and placed in the order of their dignity and character.

To convince oneself of the value of these principles, one has only to look about him to find them violated on every side.

Fatal facility of bedizenment in wood, paint and plaster has given us a terribly corrupt heredity, in a love for all sorts of flimsey ornament and useless and meaningless decoration. "Constructed Decoration" instead of "Decorated Construction" being regarded apparently as a cardinal virtue and one of the leading canons of architectural art in San Francisco. Even in many of our recent structures in which the materials partake of a substantial character and the mass and lines have been otherwise treated with dignity and propriety, the superimposition of false bearings and the misuse of materials has been altogether disastrous to all truly artistic values in the composition. But not alone in the houses we live in but in the garments we wear, the pictures we buy, and the books we read, is the regenerating influence of *principle* needed to rectify our taste and improve our moral sense.

The paltry "decoration" of our houses is too often paralleled in the puffing, paint and powder of our female friends and acquaintances and both in the shallow mockery of our religion, which seems in its most notable developments amongst us, for the most part, to glorify the *apparent*, whilst almost utterly ignoring the *real*.

The works of Richardson embraced every variety of structure from the humble cottage and railway side station to the stately church; the massive Court House and Town Hall as well as the ponderous warehouses and in all, in different degrees, his leading principles are found embodied in mechanical adaptation, beauty of design and truthful expression of purpose and appropriate treatment of material.

In the Pittsburg Court House and jail, and the great Marshal Field warehouse of Chicago, Richardson himself thought he had touched the highest point of his ideal, and the latter clearly formulates in its great arches and their horizontal and vertical divisions, the peculiar features of the style which obtains in the most notable of the great structures of the present time devoted to mercantile or commercial purposes. Many will give the palm of excellence to his exquisite library buildings, so many of which were carried into execution; and all of which are unique in their way, and certainly never excelled in their unity, originality and beauty of design and detail, and perfect fitness of adaptation to the purposes for which they are intended.

Trinity Church, Boston, the first example of the peculiar style which at once became the favorite vehicle of his artistic taste should not, in our opinion, be considered, though it often is, the best or greatest example of his genius. Externally, though very fine in conception and execution, it is accompanied by some rather unnecessary adjuncts, which somewhat detract from the more solid and dignified features of the design. Internally it is for the most part simulated construction, and to the true artist unworthy of its reputation and of its designer. It should be said however that Richardson himself defended it as being an intended sham, and to that extent a truthful structure, a logic seemingly worthy of a better cause.

In his dealings with his pupils, Richardson was accustomed to throw as much as possible the burden of the responsibility of design upon them, thus early developing their powers, arousing their ambition and making them feel the importance of the work committed to them; in this way it was that he succeeded in uniting all with whom he came in contact with himself in the effort to improve and to perfect such work as was placed in their hands. A true co-operation of the noblest sort, a co-operation of art workers for art's sake, striving to embody in lasting forms and living principles, the useful, the beautiful and the true.

Note.—The peculiar expressions "technical," "æsthetic" and "phonetic" were first employed, in the particular connections indicated above, by Ferguson, in the revised edition of his "History of Architecture," published about twenty years since. It is intended to further develop the subject in a future paper on another occasion.

Alameda 'Encinal."

We are pleased to record the most convincing evidence upon the prosperity of a town that can be chronicled by any one living outside of the place to be noticed. The *Encinal* has been published for twenty years and the name of its editor is a synonym all over the State for genial character, and also as the exponent *par excellence* of editorial courtesies. Alameda is outgrowing itself and its inhabitants are no longer satisfied with a weekly paper. So our good friend Krauth comes out with the *Semi-Weekly Encinal*. We hope he will soon be able to change it to a daily. As an exponent of bright local news, with not a word but can be read by our children, the *Semi-Weekly Encinal* stands without a peer in the State. The best sign of a go-ahead place is the increase of its newspapers, or having those already established appear oftener than once a week.

Notes on Painting.

The best time to paint the outside of a house is early in the winter, or in spring, when the air is cold and no dust is flying.

Knots in boards may be killed before painting by several methods. The surest and best, in fine work, is to cover the knot with an oil size and lay silver leaf over it. Glue size, mixed with red lead, or gum shellac dissolved in alcohol and mixed with red lead, or gutta percha dissolved in ether, will satisfactorily cover knots not exposed to sunshine. The heat of the sun draws the pitch in the knot to the surface, through the paint.

If woods to be painted are soiled by smoke or grease, those parts are to be washed with a solution of saltpeter in water, or with very thin lime whitewash. If soap-suds are used to wash of the smoke or grease, they should be thoroughly rinsed with clean water, or the paint will not harden.

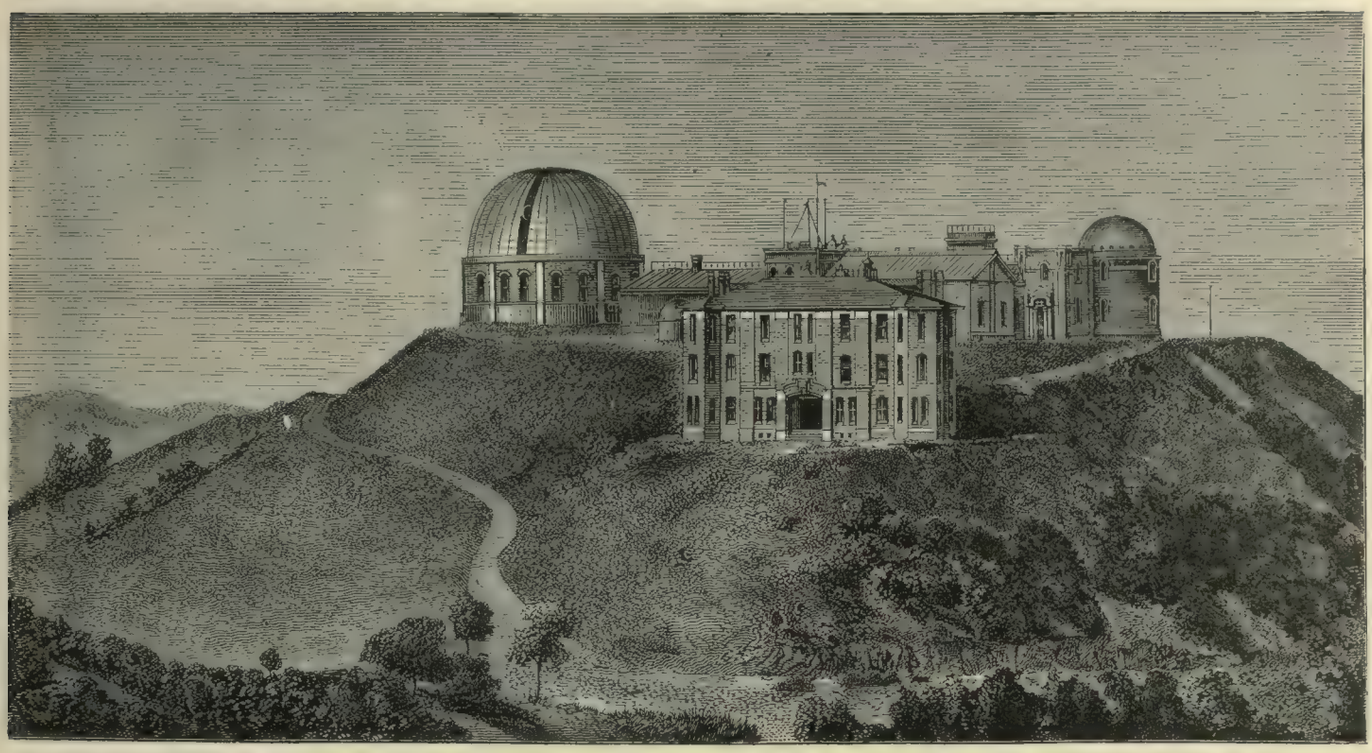
The first, second, and third coats of paint, on the outsides of buildings, should be prepared by mixing the white lead with boiled linseed oil, and allowing each coat to dry hard before applying the next.

PRICE OF LUMBER.

Price of lumber is still on the downward grade. It can be bought for $18 per M for rough lumber.

Shingles have also declined 25 cents per M.

At $18 per M the price is just to the millmen and low enough to consumers.



MT. HAMILTON, SANTA CLARA COUNTY, CALIFORNIA—THE SITE OF THE GREAT LICK TELESCOPE.

BERLIN, Sept. 1, 1888.

EDITOR ARCHITECT AND BUILDING NEWS—

Dear Sir: It may be of interest to some of the readers of your valuable journal to know a few observations taken by a Californian while journeying through Europe—of the great variety of buildings and their furnishings, etc. We wrote you last from London, where we took steamer for Christiana (three days' journey). The first thing which pleased us, on our arrival, was the massive stone docks, which are similar to those at Liverpool, but not so extensive; next the streets, which were well-paved with hewn stone and cobbles. Most of the streets are very narrow and crooked, and the sidewalks are so narrow in some places that one is obliged to step into the gutter to allow another to pass. The main thoroughfare leading up to the palace is broad and straight and pleasant to ride upon. Owing to the narrowness of the sidewalks, the people are obliged to walk in the streets. This is not so bad, as the streets are well paved and always kept clean. The first thing which the eye of a mechanic lights upon is the buildings—how they are built and the materials of which they are constructed. One thing impresses itself upon your mind right away, and that is, the Norge people build to stay; all of their buildings have a solid, substantial look, if they are not all of that style which we of the nineteenth century enjoy seeing. Most of the buildings are of brick, then covered with a coat of cement, and subsequently covered in imitation of various stones. Others are built of granite and sandstone, and all the roofs are either slate or tiles, the latter being most used. Among the most conspicuous buildings here which we visited are the Palace, Houses of Parliament, University Buildings, Victoria Apartments, Akers Gaden and the Cathedral, the dome of which was very odd indeed, being a combination of the Gothic and old oriental Mosque. In the afternoon we took a ride down through the Fgords to King Oscar's Castle, a beautiful structure of solid masonry, with twisted tower. We were shown all through the various apartments, and then on top, where we had an extended view of the surrounding country and could see over the land and water for miles and miles. Sometimes, when it is clear, you can see down through the Fgords as far as—the "*moon.*" We also visited several buildings in course of construction and found them putting in 14x14 inch hewed pine for sub-sills with 12x12 inch girders framed together strongly with 4x14 inch floor joists, all hewed and mortised and tenoned together—this was for an ordinary dwelling—and the roof put together in the same style, having timbers in the plates and rafters heavier than those which we in California put into foundations. And they go on this principle all the way through; even the locks and keys on the doors are as large as those of St. Peter's, and they still cling to the old brass knockers on the doors in place of our electric bells. We saw men hauling granite for a building coming down a steep hill with no breaks for their wagons. I expected to see the whole business roll on to the horses before they got to the foot.

After spending two delightful days here, we went to Stockholm, which is sometimes called the Venice of the North. It is certainly very beautiful, both for what nature and man have done for it. Mr. Werner Cronquist, Chemist for the Royal Navy, took your correspondent around the city and showed him the sights, which were many, and he took pride in them, I was convinced, as he pointed them out to me. Here we have the solid granite docks and bridges that characterize all these cities which I have visited. We see many long blocks of beautiful buildings, built of brick and stone, which will compare favorably with those of any city in the world. We see here that the later styles prevail, making a striking contrast with the city just left. Such a variety of modern architecture one is surprised and pleased to see. The new St. Johanses Church, now being built, is a monster structure, and will be very beautiful when complete. Architect Moller is a man of large experience and has designed some of the finest buildings here. The Church of the Kings is the first I have ever seen with a cast-iron spire and complete spear scroll work. It looks oriental, indeed.

On Sunday I attended the sacred concert given in the new German church, which is a solid granite edifice. The heavy stone columns through the center are six feet in diameter. Some of the most beautiful stained glass memorial windows made are in this church. The choir and organ loft and also the work around the altar is very richly carved and gilded. The pulpit is black and white marble, and was made in 1660. It was transferred from the old church to the new, and is a very pretty work of art. The largest telephone station in the world is located here—so I am told. Certainly the beautiful building, the immense tower and the myriads of wires running hither and thither would indicate as much. I see they use here a preparation for coating brick buildings cemented, which makes them look like various kinds of marble. They use a scaffold such as I never saw in America in putting it on. It is a box 5x5 feet that holds two men. This is held in position by an immense pole 8x8 feet and 80 feet long, running through the center like a gauge on end, with a rope and racket attachment to hold it in place. It is certainly a novel scaffold. I notice that women are employed on many of the larger buildings to carry brick and wait on the men. They can run up and down five and six-story scaffolds as nimbly as the men. Among the prominent buildings we visited here are Drottingholm, Royal Castle (Tessin artchitect), Catarina lift building. The Polytechnical High School (Eddsord architect), Grand Hotel, Germania and Reidberg are large and commodious. The Royal Opera House and the Queen's Palace are solid granite structures. But the people must not be overlooked. They are just what they appear to be—kind, gentlemanly and generous-hearted, and know how to entertain strangers. I speak from experience.

Yours truly,

E. C. GILBERT.

Practical, Plane and Solid Geometry.

BY ARTHUR SEYMOUR JENNINGS.

Prepared especially for the Architect and Building News. (Copyrighted.)

CONSIDERING that everything made by man is of geometrical form, it would appear that a more or less perfect knowledge of geometry should be possessed by everyone. To the mechanical draftsman, the subject is essential and especially that branch which relates to solid geometry and projection, while to the mechanic a knowledge of it forms, almost invariably, a means to the end of advancement. The artisan in many trades who understands geometry, is he who becomes foreman or superintendent. This is especially the case in the building and engineering industries where the operations from beginning to end depend upon the application of geometrical principles Hence, the civil engineer and the architect find it necessary to gain a knowledge of the subject, while those working under their directions—the builders, carpenters, masons and other mechanics —must be cognizant with it in order that they may be enabled to read the plans and drawings drawn out for their guidance The land surveyor is simply one who is versed in geometry and its application to the measurements of the earth's superficies. Measuration is a science which depends upon a knowledge of geometry and arithmetic for its solution.

The wide usefulness of the subject has had the effect of producing a deal of literature on the subject. For the most part, such books as exist are either too elementary or too advanced for the man of average intelligence; they are either more suitable for the school room than the practical man or else are so far advanced as to be without the scope of a person of ordinary "school education." So far as it is possible within these pages, it is proposed to give a series of articles which shall form the basis of an extended study in this important subject. A solution of the more elementary problems will not be given unless they are not generally known, but sufficient reference to and explanation of them will be made to enable those readers who may not be already familiar with them to obtain their solution from sources. Particularly in connection with projection, it is hoped that architectural draftsmen and others may find the benefit from studying—not merely reading— this series.

At the risk of a charge of advertising, the author will, where occasion requires, make mention of either firms or books which, from his personal knowledge, he deems likely to be of assistance to the reader. The object of the paper is simply to assist the student in acquiring this knowledge, and with that end he invites criticisms or questions addressed to the editor and will always be pleased to render whatever assistance he can in this connection

INSTRUMENTS.

The student of geometry will need a number of instruments in order that he may work out the various problems which are given. These must consist of, at least, a compass with pen and pencil points, a pair of dividers and a right line or drawing pen. Drawing boards, triangles, pencils, paper, rubber and thumb tacks will also be needed. Considering that sets of instruments may be had from 25 cents up to $300, it will be seen that a description of them would occupy too much space to give here. The student is advised to obtain the catalogues of the various firms of mathematical instrument makers which will be sent free of charge to any one who mentions this paper. In most of the large cities are found dealers, or makers, who publish catalogues and it will be useful to give one or two names here for reference. Kauffel & Esser, Fulton street, New York; Queen & Co., Chestnut street, Philadelphia and W. Stanley, Norway Junction, London. Eng., are among the chief firms, each of which will be found of much value and interest.

Fig. 1.—Compass for describing minute circles.

Among the less known of mathematical instruments may be mentioned the compass illustrated in Fig. 1 which is employed for describing minute circles. The principle difference between this and other compasses lies in the fact that the pen works on a vertical rod which is held stationery. Pens for making dotted lines up to recent date usually consisted of wheels placed between the nibs of an ordinary right line pen, but they were very far from satisfactory. Probably the best dotting instrument is that shown in Fig. 2 which not only is adaptable to any description of dotted line but does its work clearly and quickly. To change the length or description of the dots, the wheel B is taken out and another one is inserted. It is found of considerable service to have at hand a curve which may be used in describing ornamental work and a large number of different curves are manufactured in paper, hard rubber and wood for the purpose. These however, are to some extent unsatisfactory inasmuch as a great number of them will be required in setting out the work in an ordinary office. To meet the difficulty an instrument has been introduced, consisting of a flexible edge connected by a strip of pure drawn lead and it may be readily adjusted to any curve. One of the most difficult things to do in mechanical drawing is to draw a number of parallel lines at equal distance apart and it is required so often that several instruments for the purpose have formed the subject of patents in recent years. Among these may be mentioned Harden's section liner which is adapted for use on both sections and cylindrical work. Bergen's section liner in Fig. 3 is a very serviceable instrument of the same class while another is the "Universal Ruler," shown in Fig 4. An entirely new description of form in mathematical instruments has lately been introduced into this country from Germany. They are constructed mainly in cylindrical form and in strength and convenience are claimed to exceed those of the old style. Having possessed himself of the suitable instrument the student will now proceed to study scales.

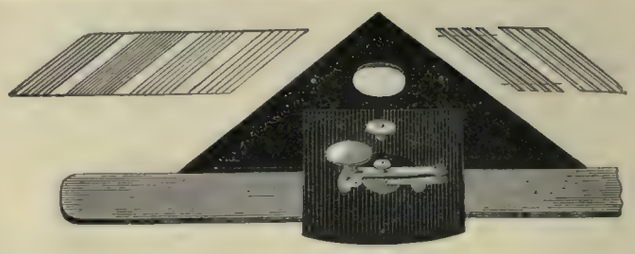


Fig. 3.—Bergen's Section Liner.

Scales.—A scale drawing intended to represent some object

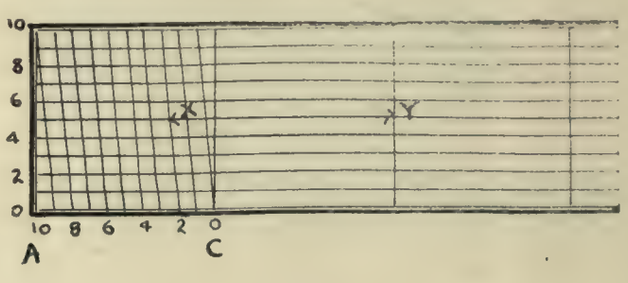


Fig. 5.—The Diagonal Scale.

such as part of a portion of mechanism, etc., may be full sized or it may be larger or smaller. In the last two cases it is said to be drawn to scale. In the erection of an ordinary building some drawing (termed details or detail drawings) are full size and the majority on a scale of about a quarter of an inch to one foot. The fraction which exists between a drawing and the object which it represents is termed the representative fraction because it represents the fraction or proportion between the drawing and the object. Thus in a scale of an inch to a foot one inch represents 12 inches and the representative fraction is therefore 1-12. The construction of a plain scale must be very accurate and as it

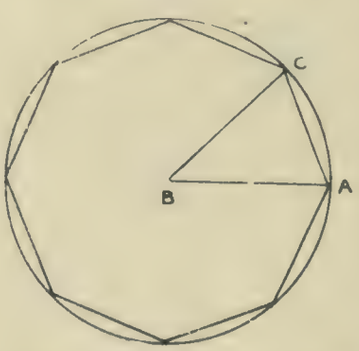


Fig. 6.—Construction of Polygon in circumscribing circle.

involves considerable time and care to make, it is advisable that scales should be purchased ready made. These are made on wood, ivory and paper. The last are not at all reliable. The student will do well to make himself thoroughly acquainted with scales and should make for himself several until he is able to produce a result essentially accurate.

The construction and use of a diagonal scale does not seem to be so generally known as it might be, considering its efficiency. Its use is to give minute measurements such for example as one hundreth part of an inch. The principle upon which it is constructed will be clear on reference to Fig 5. A B is divided into inches the first inch A C is divided into tenths as indicated by the figures placed against the divisions. To obtain the hundreth part of an inch, that is, the tenth part of the smaller divisions, lines are drawn diagonally, being divided up by horizontal lines into ten equal parts. It will be seen that if the diagonal line slope to the left 1-10th of an inch that the horizontal lines will

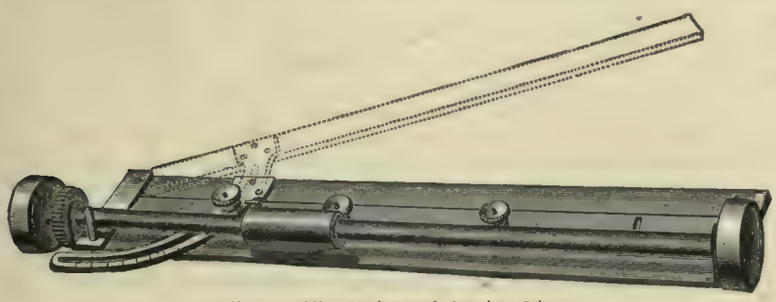


Fig. 4.—The Universal Section Liner.

divide that distance up into ten parts, giving the hundreth part of an inch. For example, the distance from X to Y in the figure will be 1.25 inches; that is, one inch, two tenths and five hundreths. It will be obvious that the most minute measurements by this system may be easily obtained and their utility in setting out on a small scale is very considerable.

Elementary Problems.

We may here pause to advise the student who is unfamiliar with the methods, to learn how to work out the following problems: Divide a line into equal parts or proportionally, making angles with compass only; bisecting angles and lines; erecting perpendiculars; polygons, triangles, squares and rectangles in circles.

Polygons.—The polygon is a figure having more than four sides and angles. When the sides are equal in length it is said to be a regular polygon, and when of unequal length an irregular polygon. The construction of the latter depends upon the length of lines and angles being given. Regular polygons, however

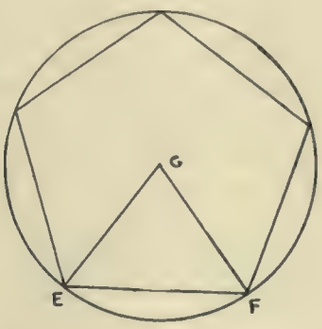


Fig. 7.—Construction of Polygon when one side is given.

may be constructed in a variety of ways. The geometrical methods are given in the books and are not within the scope of these papers. A quick way which is not generally known is by means of the protractor and is as follows: *First.* When the circle is given, divide 360 by the number of sides in the required polygon. Draw the circle shown in fig. 6 and a radius, making an angle with the first equal to that obtained by dividing as just mentioned. Thus suppose that it is required to draw an octagon or eight-sided figure in the circle A B: 360 divided by 8 equals 45, set up for the angle, 45 degrees, A B C, join A C, which is one side of the required polygon. Considering that all the sides are of equal length, the distance A C will step round the circle eight times as required. *Second.* When the length of side is given set out the one side E F fig. 7, then work out the following sum:

$$\frac{(N - 2 \times 90)}{N}$$

In this formulæ N equals the number of sides in the required polygon. Now take the angle so obtained and set it up at E and F respectively, and where the two lines meet at G, stick in the compass and with radius G F describe a circle. The line E F will now step round exactly the number of times required. For example, suppose it is required to draw a pentagon or five sided figure, N in this case equals 5, therefore 5 divided by 2 equals 3 times 90 equals 270 divided by 5 equals 54. The angles, of course may be either set up by means of a protractor or by the scale of chords. This method of constructing polygons

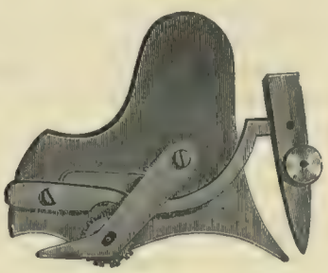


Fig. 2.—Patent Dotting Instrument.

is an exceptionally quick one, and with a little care is very accurate, Another way to do the same thing is by an instrument known as the sector, an explanation of which will be given in our next paper. *To be continued.*

ODD FACTS ABOUT BUILDINGS.

The Definitions Used by Insurance Companies.

WHAT is a building, anyhow?

A reporter was securing some facts about insurance, and was surprised to find that a fishing scow comes under that heading, while a shanty does not always.

"That depends upon circumstances. Under the rules governing insurance companies a building is described briefly as follows:

"A building or 'house' 'is an edifice erected by art, composed of stone, brick, wood or other proper substance, fixed upon or over the soil, and designed for use in the position in which it is fixed.'

"A policy upon a 'building' simply, without qualifications, will cover only the building as therein described. But the insurance will not include the contents, nor extend to the occupancy of the premises beyond that described in the policy.

"If the word building be qualified by additional words, as 'sawmill buildings,' it would then include everything appurtenant and necessary to fit it for occupany as a sawmill, and carry with it the right to be used for such purposes.

"Fishing Scows are Buildings—When it is proved that they are used and occupied during the fishing season as dwellings and places of business, and after the fishing season as residence on land.

"A Shanty Not a Building—When used for storing tools, but not used for a workshop.

"Stories of a Building—Where the several stories of a building were owned by separate parties, it was held that such owners of distinct buildings, the one situated over the others, and the owner of the upper story must keep the roof in repair at his own expense; and he cannot recover from the owners of the stories below any portion of such expense, although the repairs were to protect the property of such owners."

—"Gilbertson's Old Method" Roofing Tin has been specified by the Architect of the new B. & O. Depot at Smithfield street. One thing certain, the coming generation are sure of a good roof from rain and storm while waiting for trains at the B. & O.—*The Builders' Gazette, Pittsburg, Pa.*, Aug. 15, 1888.

PLUMBING AND DRAINAGE.

Rules and Regulations adopted July 19th, 1888, by the Board of Health, City and County of San Francisco, to take effect immediately

ORDER NO. 1,982.

Providing for the protection of the Public health, and requiring Plumbers to register their names and addresses at the Health Office, and comply with regulations of the Board of Health in reference to the drainage and plumbing of buildings.

The People of the City and County of San Francisco do ordain as follows:

[Plumbers to Register at Health Office.]

SECTION 1. Every master and journeyman plumber, carrying on his trade in this city and county, shall, under such regulations and rules as the Board of Health of said city and county shall prescribe (not in conflict with general laws), register his name and address at the Health Office of said city and county. And after the establishment of such rules and regulations, it shall not be lawful for any person to carry on the trade of plumbing either as a master or journeyman plumber, or otherwise, unless his name and address be registered as above provided.

[List of Registered Plumbers to be Published in yearly Report of Health Officer.]

SECTION 2. A list of the registered plumbers shall be published in the yearly report of the Health Officer or Board of Health.

[Penalty.]

SECTION 3. The drainage and plumbing of all buildings, both public and private, hereafter erected in said city and county shall be executed in accordance with plans previously approved in writing by the Board of Health of said city and county; and suitable drawings and descriptions of the said drainage and plumbing shall, in each case, be submitted to the Board of Health and placed on file in the Health Office.

[Drawings of Drainage and Plumbing to be filed.]

The said Board of Health is also authorized to receive and place on file drawings and descriptions of the drainage and plumbing of buildings erected prior to the passage of this Order.

[Penalty.]

SECTION 4. Any person violating any of the provisions of this Order shall be deemed guilty of a misdemeanor and upon conviction shall be punished accordingly.

In Board of Supervisors, San Francisco, May 28, 1888.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Curran, McDonald, Boyd, Pescia, Bush, Burns, Hawkins, Knorp, Heyer, Lambert, Joost, Morton.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, May 20, 1888.

E. B. POND,

Mayor and ex-officio President Board of Supervisors.

In pursuance of Order 1,982 of the Hon. Board of Supervisors, "providing for the protection of the public health and requiring plumbers to register their names at the Health Office and comply with regulations of the Board of Health in reference to the drainage and plumbing of buildings approved May 29, 1888," the Board of Health for the City and County of San Francisco, have adopted July 19, 1888, the following Rules and Regulations, to take effect immediately:

1. All material must be of good quality and free from defect. The work must be executed in a thorough and workmanlike manner.

2. The arrangement of soil and waste pipes must be as direct as possible.

3. Every house or building must be connected with the street sewer by a cast-iron or iron-stone pipe extending out to the line of the street, and in the case of buildings erected on the line of street, said cast-iron pipe shall extend three feet beyond the front walls or any area wall. From the points above designated to the street sewer, the drain shall be continued either by the above mentioned cast-iron pipe or by a vitrified iron-stone pipe laid at a uniform grade from the street sewer to a point of juncture with the cast-iron pipe. All joints on said iron-stone pipe shall be made with Portland cement, and each joint of pipe when laid must be properly cleaned on the inside by a suitable scraper before the succeeding pipe is put in place. All joints on a cast-iron pipe shall be made with a suitable packing of hemp or oakum, and run full with molten lead and properly caulked.

4. Every house or building hereafter erected must have the house drain constructed of cast-iron where it lies under the building; but when the house drain is outside the building lines, or where there is an open space under the house of four (4) feet clear in hight, it may be of iron-stone pipe. The house drain must have a fall of at least one-quarter of an inch to the foot; it should run along the cellar wall where practicable, or if laid under the lower floor of a building should be hung in iron straps securely fastened to the floor joists; it should be laid in as straight a line as possible. All changes in direction must be made in curved pipes and all connections with Y branches and one-eighth bends, with a trap placed under the sidewalk. The trap must be provided with a fresh-air inlet on the house side of the water-seal, of at least four inches in diameter, leading to the outer air. No brick, sheet metal or earthenware flue shall be used as a sewer ventilator, nor shall any chimney flue be used for this purpose. No T's to be used except in places where otherwise not practicable.

5. Every soil pipe shall be of cast-iron; waste pipe shall be of cast-iron, wrought-iron or lead.

6. All cast or wrought-iron pipe and fittings for waste, vent and soil pipe must be coated both inside and outside with coal-tar pitch, applied hot, or some other equivalent substance.

7. All iron soil or waste pipe, before being coverd up, must have all openings stopped, and filled with water and be allowed to stand until inspected and approved. All connections of lead with iron pipe must be made with a brass ferrule of the same size as the lead pipe, and caulked into the iron pipe and connected to the lead pipe by a wiped joint. All connections of lead pipe should be wiped joints.

8. Every water-closet, sink, basin, bath or set of wash-trays or other vessel connected with the drain pipes, must be separately and effectively trapped. The traps must be placed as near the fixtures as practicable.

9. Traps must be protected from syphonage by special air-pipes of lead, wrought iron or cast iron, not less than the size of waste pipes, and, if to supply air to traps of water closets, not less than two inches in diameter. These pipes must extend two feet above the highest point of roof or coping, or they may be branched into the soil pipe three feet above the highest fixture; they may be combined by branching together those which serve several traps. These air pipes must always have a continuous slope, to avoid collecting water by condensation. When the trap of any fixture is set more than two feet from the vertical line of pipe, a return connection must in all cases be provided.

10. Every safe under a basin, bath, urinal, water-closet, tank or other fixture, must be drained by a special pipe of lead or wrought-iron, not directly connected with any soil, waste-pipe, drain or sewer, but made to discharge outside the house.

11. Rain-water leaders must never be used as soil, waste or vent pipes, nor shall any soil, waste or vent pipes be used as a rain-water leader. All leaders from points below main roof must discharge into open trapped hoppers, on the surface of the ground.

12. No steam exhaust will be allowed to connect with any drain, soil or waste pipe.

13. All waste pipes from all interior plumbing, exclusive of water-closets, shall discharge into an open trapped hopper, except rooms which contain a water-closet, or where a building covers the entire width of the lot of ground.

14. Every line of waste and soil pipe must extend full bore to the ridge of the roof, or two (2) feet above the fire walls. When not more than one water-closet on the basement of first floor of a building connects with a line of soil pipes, an air pipe of cast or wrought-iron two (2) inches in diameter, extending to the ridge of the roof, or two feet above fire-walls, may be used.

15. All leaders, soil, waste, air and drainpipes inside of buildings before being covered up, must have all openings stopped up and be filled with water. The said test shall be made in the presence of the Inspector of Plumbing, and if satisfactory, he shall issue a proper certificate. Notice must be given to the Inspector when the work is sufficiently advanced for inspection.

16. All iron-stone pipe house drains, under houses, shall, after being laid, be filled with water and allowed to remain uncovered until inspected by the Plumbing Inspector of the Board of Health. When cast iron or iron-stone pipe is specified in the foregoing rules and regulations, if desired, wrought-iron pipe of standard steam thickness may be used, provided that the fittings are so constructed as to form a uniform bore with the pipe, without burrs or recesses.

17. No opening shall be provided in the sewer pipe of any building, for the purpose of receiving the surface drainage of the cellar, unless special permission is granted; and any opening so made must be immediately and permanently closed when directed by this department.

18. When a building is moved from one part of the city to another, or when an addition is made to a building, the plumbing rules and regulations adopted by the Board shall be followed.

19. On and after the first day of August, 1888, all plumbers doing business in the City and County of San Francisco, shall register, pursuant to the provision of Order 1,982 of the Board of Supervisors, approved, May 29th, 1888, at the office of the Board of Health.

20. Every master plumber, before he shall be allowed to be registered, shall give a bond to the State of California in the sum of five hundred dollars with two good and sufficient sureties, for the faithful discharge of his duties as plumber; which said bond shall be approved by and filed with the Board of Health.

21. All applications for registration as master or journeyman plumber shall be made by the party desirous of being registered; and said application shall be subscribed and sworn to by the party making the said application, on blanks to be provided by the Secretary of the Board of Health.

22. There shall be appointed by the Board of Health an Inspector of Plumbing and Drainage. He shall take and subscribe to an oath that he will faithfully perform the duties of his office, and shall, before entering upon his duties, execute a bond to the City and County of San Francisco, in the sum of five thousand dollars, with two good and sufficient sureties, conditioned for the faithful performance of the duties of his office, and for the benefit of persons aggrieved by his acts or neglect. Said bond shall be approved by and filed with the Board of Health.

23. The salary of the Inspector shall be fixed at one hundred and twenty-five dollars per month.

24. There shall be appointed by the Board of Health an Assistant Inspector of Plumbing and Drainage, to act under the orders of the Inspector of Plumbing and Drainage, and assist him in the fulfillment of his duties.

"Section 25. It shall not be lawful for any person to carry on business or labor as a master or journeyman plumber, in the City and County of San Francisco, until he shall have obtained from the Board of Health of said city and county a license authorizing him to carry on business or labor as such mechanic. A license so to do shall be issued only after a satisfactory examination by the Board of each applicant upon his qualification to conduct such business, or to so labor. All applications for license, and all licenses issued, shall state the name in full, age, nativity, and place of residence of the applicant or person so licensed. It shall be the duty of the Secretary of the Board of Health to keep a record of all such licenses issued, together with an alphabetical index of the same."

Duties of Inspector.

First. He shall be in attendance at the Health Office between the hours of 8.30 and 9.30 A. M. and 4 and 5 P. M., to receive plans of proposed plumbing and drainage, and to make appointments for the inspection of work in the course of construction.

Second. He shall number and file all plans and specifications accepted, and record the names of the owner and architect, and plumber, and location of work.

Third. He shall, upon being notified, examine all plumbing work before the same is covered up and concealed, and, if found to be in accordance with the Rules of the Board of Health, upon presentation of an accurate plan and specification of same by the plumber, shall issue a certificate to that effect. If, on examination of said work, he finds any violation of the rules of the Board of Health, he shall report the same to the Health Officer, with a note explaining the necessary corrections, and have it altered accordingly. Upon completion of any plumbing work he shall examine the same, and, if found to be in accordance with the Rules of the Board of Health, and the plars and specifications filed, he shall issue a final certificate.

Fourth. He must make a monthly report to the Board of Health of the number of plans and specifications received; the number approved and rejected; also stating the number of first and final examinations made, and where and by whom the ruby have been violated, and such other matter as may be requiredles the Board of Health

BOUND VOLUMES FOR 1888.

Owing to the demand for back numbers of this journal, the number of bound volumes we will have for purchasers in December will be very limited. Those desiring the same should engage them in advance. The price will be the same as for preceeding years, $2.50 each.

Old Homes Made New...	50
The Suburban Cottage..	1 50
Homes for the People....	2 00
Leffel's House Plans.....	2 00
Water Closets	1 00
Sewer Gas.....	1 25
Steam Engine Catechism	1 00
Builder's Guide	2 00
Cozy Homes	25
How to Paint	1 00
Cutting Tools	1 50
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IN JANUARY, 1889, WE BEGIN THE

TENTH VOLUME

OF THE

California Architect and Building News

TERMS,

TWO DOLLARS PER ANNUM.

Office: 240 MONTGOMERY STREET, SAN FRANCISCO, CAL.

Well up Heavenward.—28 Stories.

SCARCELY a day passes that does not bring to light some wonderful or strange proposition or development, and no man knoweth what to morrow may bring forth.

The evolutions in all directions are ceaseless, rapid, and often stupendous and grand. There is to-day before the world of mankind, very many proposed or recently accomplished results which to have been suggested fifty years ago, would have subjected the parties advancing the ideas, to the suspicion of absolute lunacy, or serious mental derangement.

The latest in the building line is a proposition to erect a building in Minneapolis, Minn., *twenty-eight stories high*—four times the number of stories contained in the Palace Hotel in San Francisco, which when built, was considered a monster edifice. But with an addition to the Palace of the character suggested by the latest conceit—twenty-eight stories—the building, which when built, was in fact the largest hotel edifice in the world, would appear as but little more than an annex for kitchen purposes, dormitories for servants, chambermaids, porters and hired help.

Without discussing the merits or feasibility of the projected high edifice, it must be admitted that the designer's notions were very elevated, and that nine-tenths of the people of the United States will at first sight condemn the aspiring latitude of the architect in his attempt to utilize space so high above the level of terra firma. But it is a question whether this latest architectural adventure is any more startling and scare-crowish to the people of the present day than would have been the proposition to erect ten, twelve and thirteen story structures, made to the grandsires of those who have since conceived and completed buildings in New York, Chicago, Boston and others of the older and the newer cities now assuming great commercial and business importance in parts of the continent which, but a generation or two ago, was known as the wild West, and the hunting ground for buffaloes and the home of the red man of the forest—buildings quadrupling the limits of height practiced in the earlier years of our nation's history.

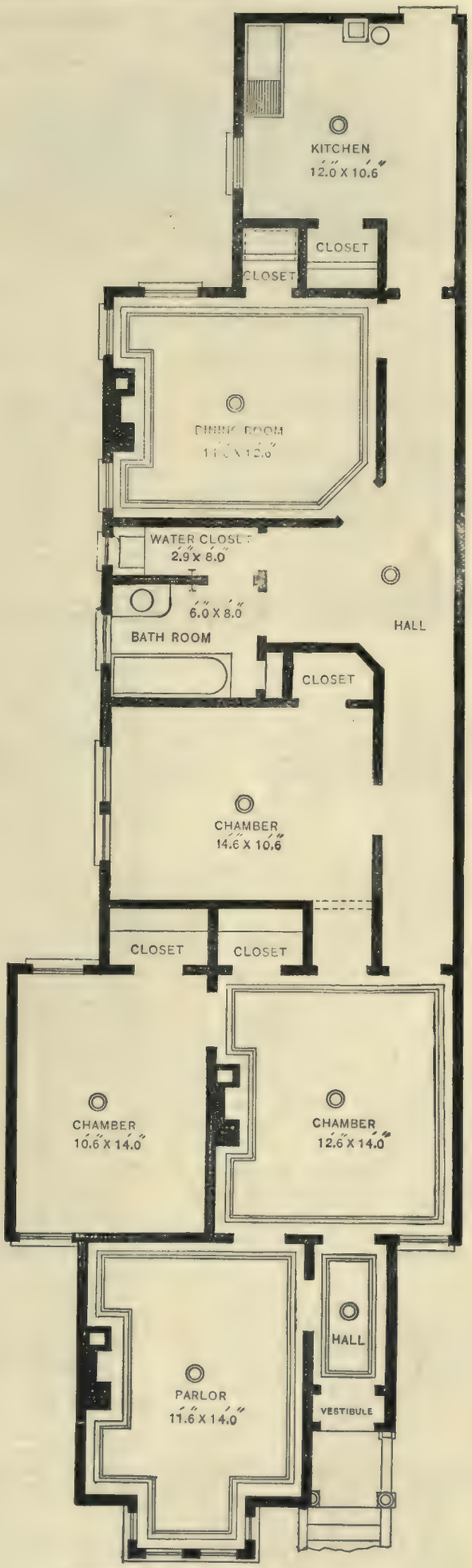
Even the immortal "Father of his country," if at the time he was quartered at the lower end of Broadway, N. Y., within sight of the Battery, opposite Bowling Green, in a building then of the larger type—where he was near being made a prisoner of war—been told that on that very site, before the year 1885, there would be a building erected twelve stories in height, and conveniently and comfortably occupied in all its stories, he would have laughed to scorn the folly of the presumptious man who would have dared to predict such a result. Yet it is to-day an accomplished fact, and the "Washington Building" stands just there, as one of the magnificent structures of the commercial metropolis of America. Arguing from these premises. is it not possible that infants, if not well grown lads, or even young men of the present era, may yet see or participate in the erection of buildings even as high as twenty-eight stories? It is far-reaching toward the clouds, but other things seemingly as unreasonable a quarter of a century ago, are now demonstrated facts, and the science of architecture and building may yet achieve results not yet grasped, and the "mad men's" projects of to-day may be among the recognized utilities of the future.

Newspaper editors and correspondents may dip their pens deep into ink and write up fierce denunciations, nineteen-twentieths of business committees resist for the present, all such mad-architectural libertinism, and laws even be passed prohibiting such construction; still the evolutions will roll on, and in time buildings aproximating if not exceeding twenty-eight stories may no more be a questionable proposition, then are the numerous ten to thirteen story buildings of to-day, which are to be seen in all the progressive and great cities outside of San Francisco.

A SERIES OF "GEM" COTTAGES.

Next issue we will commence in this journal a series of "GEM" cottages. They will be prepared expressly for us by A. W. Putnam, a draughtsman recognized by all who know him, as possessing rare abilities as an original designer.

Now is the time to subscribe. Remaining numbers of this year given free to all new subscriber. for 1889.



A STUDIED PLAN FOR A ONE-STORY COTTAGE.

There is no Paper or Journal on the Pacific Coast that pretends to give a Full Report of Building News, *except the*

CALIFORNIA

Architect and Building News.

CITY BUILDING NEWS.

Bush, west of Pierce, three two-story frame buildings; owner, Pardon A. Cook; architect, Wm. H. Wharff; contractor, O. E. White; amount, $7,531; signed, September 14th; filed, September 15th; limit, 67 days.

Payments: framed, $1,400; brown coated, $1,400; white coated, $1,400; completed, $1,431; $1,900, 35 days.

Pine street, N . 520, repairs. Owner, Kong-Chow Association; architect, Townsend & Wyneken; contractor, Rhody Ringrose; amount, $3,019; sureties, Wm. P. Dougherty and H. M. Peterson, $5,000; signed, September 12th; filed, September 15th; limit, 35 days.

Payments: completed, $2,264; $755, 35 days.

Page, southeast of Webster, two-story frame building. Owner, Chas. B. Perkins; architect, R. H. White; contractor, Jas. Geary; amount, $3,850; sureties, C. S. Holmes & W. A. Meeker; signed, September 18th; filed, September 22d, limit, 90 days.

Payments: framed, $775; brown coated, $700; white coated, $700; completed, $700; $975, 35 days.

Eddy street No. 1,916, additions, etc. Owner, P. A. Fortier, architect, P. A. Fortier; contractor, Wheeler & Burdick; amount $3,150; sureties, A. W. Starbird; signed, September 19th, filed, September 22d; limit, 100 days.

Payments: studded, $800; brown coated, $800; white coated, $749; $801, 35 days.

Golden Gate Ave. and Polk, tin and galvanized iron work. Owner, H. Keenan; architect, C. J. I. Devlin; contractor, Jos. Forderer; amount, $1,340; signed, August 20th; filed, September 21st.

75 per cent as work progresses; balance, 35 days.

Eddy street, between Jones and Leavenworth, Alterations. Owner, Annie K. Botsford; architect, T. J. Welsh; contractor, G. W. Hansbrough; amount, $14,265; sureties, John F. Taylor, J. M. Manning; signed, September 14th; filed, September 17th; limit, 120 days.

Payments: framed, $2,500; brown coated, $2,500; completed, $5,565; $3,700, 35 days.

Powell, between Post and Sutter, frame building. Owner, Mrs. A. M. Parrott; architect, Pissis & Moore; contractor, Wm. Langstaff; amount, $7,390; sureties, E. P. Latson, F. H. Rosenbaum; signed, September 18th; filed, September 19th; limit, 70 days.

Payments; brick work of basement up, $1,200; framed, $1,200; brown coated, $1,600 ready to paint, $1,400; completed, $140; $1,850, 35 days.

Eddy street, No. 326, plumbing and contractor. Owner, G. W. Hansbrough; architect, T. J. Welsh; contractor, E. Kraus; amount, $1,820; signed, September 20th; filed, September 21st.

Plumbing, $455; brown mortar on, $455; tubs and bowls set, $455; completed, $455; balance, 35 days.

Twenty-fifth, between Bryant and York, two-story frame building. Owner, F. Dooly; architect, M. J. Welch; contractor, R. Doyle & Son; amount, $1,860; sureties, John McGuire, J. Wagner, $1,860; signed, September 18th; filed, September 19th; limit, 65 days.

Payments: framed, $500; brown coated, $600; completed, $745; $615, 35 days.

Bush street, No. 220 to 226, alterations. Owner, Estate of C. D. O'Sullivan; architect, C. J. I. Devlin; contractor, C. P. and G. H. Moore, amount, $5,259; sureties, C. S. Holmes, F. Joost, $5,000; signed, September 12th; filed, September 19th; limit, 45 days.

Payments: iron girders, $1,000; brown coated, $1,800; completed, $1,144; $1,315, 35 days,

Francisco, west of Stockton, building; Owner, Annie Hare, contractor, R. Doyle & Son; amount, $2,460; sureties, J. B. Coffin, Jno. McCarthy; signed, September 11th; filed, September 22d; limit, 70 days.

Payments: framed, $465; 1st coat of mortar is on, $465; completed, $465; $465, 35 days.

Turk, east of Franklin, frame building. Owner, J. Brown; architect, Salfield & Kohlberg; contractor, H. Rohling; amount, $6,050; sureties, J. J. McKinnon and F. Joost, $6,050; signed, September 11th; filed, September 13th; limit, 3 months.

Payments: framed, $1,550; partitions set, $1,000; brown coated, $1,000; completed, $1,000: $1,500, 35 days or bills paid.

O'Farrell east of Laguna, building December 1st. Owner, Winifred & Margaret Gallagher; architect, J. J. Clark; contractor, Jno. G. Adams; amount, $3,500, signed, September 15; filed, September 20.

75 per cent as work progresses; balance, 35 days.

Bush street, No. 226, cast iron work. Owner, Estate of C. D. O'Sullivan; architect. C. J. I. Devlin; contractor, J. Hendy Machine Works; amount, $2,650; sureties, A. R. Wells, Jas. Patterson, $2,000; limit, 40 days.

Payments: completed, $1,975; $675, 35 days.

Russ street, No. 22, raise and move. Owner, A. and S. Simon; contractor, A. C. Rogers; amount, $2,400; signed, August 4th; filed, September 13th.

Payments: payment as work progresses.

Howard street and Tenth, wrought-iron work. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor. C. Nutting & Son; amount, $16,350; sureties, P. Crichton, Wm. Cronan, $5000; signed, September 13; filed, September 20; limit, 110 days.

75 per cent on 1st Saturday of month as the work progresses; balance 35 days.

Howard street and Tenth, cast iron work Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, O'Connell & Lewis; amount $11,145; sureties, Robt. Mitchell, J Mahony, $4,000: signed, September 13; filed, September 20; limit, 100 days

75 per cent on 1st, Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, artificial stone work. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, G. Goodman; amount, $4,680; sureties, Robert Mitchell, J. Mahony, $2,000; signed, September 13; filed, September 20; 75 per cent on 1st Saturday of month as work progresses, balance, 35 days.

Howard street and Tenth, stone work. Owner, Omnibus Cable Company, architect, Percy & Hamilton; contractor, Degan & Orford; amount, $15,728; sureties, F. E. Knowles, Wm. Mathews, $5,000; signed, September 13; filed, September 21, limit, 125 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, brick work engine house. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, W. Burden; amount, 25,150; sureties, Robert Mitchell, C. A. Warren, $10,000; signed, September 13; filed, September 20th; limit, 140 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, carpenter, plumbing, and painting. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, Thomas H. Day; amount, $28,200; sureties, J. F. Kennedy, and B. Joost; $10,000; signed, September 13; filed, September, 20; limit, 80 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Brannan, north west side First, one-story and basement, wine warehouse. Owner, Warehouse Land and Improvement Company; contractor, Richardson & Gale. amount, $39,500; sureties, Schulze & Meeker, E. O. & J. G. Denning, $13,200, signed, September 14; filed, September 21; limit, 120 days.

Payments: area walls built, $7,800; side walk, iron and first joists in $6,600; brick work to under side, of ceiling, joists done, $3,850; fire walls built, roof done, tin and skylights, $4,675; completed, $445, 35 days.

Kisling, between 11th and 12th streets, frame building. Owner, Owen Carroll; architect, M. J. Welsh, contractor, T. Sullivan; amount, $3,787; sureties, W. Thyarks, B. Joost; signed, September 15th; filed, September 18th; limit, 70 days.

Payments: framed, $946.76; brown coated, $946.75; completed, $946.75; $946.75, 35 days

Oak and Broderick, two-story frame building. Owner, C. Sancken; architects, Copeland & Banks; contractor, Jno. Adams; amount, $3,482; surety, B. Joost; signed, September 19; filed, September 22; limit, 120 days.

Payments: $800, framed, $1,200, brown coated; $607, completed; $975, balance, 35 days.

Fourteenth between Howard and Shotwell, two-story flat. Owner, Geo. Heyle; architect, Geo. Houston; contractor, Geo. Houston; amount, $2,790, signed, September 17; filed, September 20; limit, 80 days;

Payments: $690; shingled, $700; brown coated, $700; windows in, $700, 35 days.

Stewart, south of Market, three-story, basement brick. Owner, Gualala Mill Company; architect, C. I. Havens; contractor, Mahoney Bros.; amount, $30,353; surety, C. S. Holmes; signed, September 18; filed, September 20; limit, 125 days.

75 per cent as work progresses; balance, 35 days.

Francisco west of Kearny, foundry and pattern shop. Owner, Joshua Hendy; architect, R. Chartrey; contractor, Thomas H. Day; amount, $8,493; sureties, J. F Kennedy, F. P. Lawtson; signed, September 18; filed, September 19; limit, 90 days.

75 per cent on 1st of month as work progresses; balance, 35 days.

Van Ness and McAllister, alterations, plumbing, etc. Owner, John DeWitt Allen; architect, George Voelken; contractor, John Doherty; amount, $1,825, signed, September 4th; filed, September, 15th; limit, 40 days.

Payments: pipes in, $900; completed, $468; $457, 35 days.

Hampshire, between 24th and 25th, building December 15th. Owner, Anton King; architect, H. Geilfus: contractor, J. F. Logan: amount, $3,493; signed, September 15th; filed, September 15th.

Payments: framed, $500; partitioned, $500; brown coated, yard in, $550; inside finish on, $550; completed, $500; $893, 35 days.

Jackson, east of Pierce, carpenter work. Owner, Robert Bruce; contractor, Wm. F. Kern; architect, Wm. F. Smith; amount, $10,025; surety, O. W. Nordwell, signed, July 14; filed, September 12, limit, four months.

Payment: four equal payments as work progresses of $1,875: balance, 35 days.

Golden Gate Ave. between Hyde and Larkin, two-story frame, stable. Owner, W. H. Carpenter & Son; architect, Wm. H. Armitage; contractor, Mead & Kennedy; amount, $3,800; surety, J. P. McMurray $2,000; signed, September 4; filed, September 12; limit, 60 days.

Payments: framed, $750, brown coated, $750; white coaed $600; 35 days.

Bush street, No. 226, stair work. Owner, Estate of C. D. O'Sullivan; architect, C. J. I. Devlin; contractors, J. R. Drew, F. McLaughlin; amount, $1,180; sureties, H. C. Gray and C. C. Terrill, $1 000, signed, September 5; filed, September 19; limit, 35 days.

Payment: treads and risers in place, $450; completed, $435; $295, 35 days.

Sanchez, between Sixteenth and Seventeenth, two-story frame building. Owner, Jas. Warren; architect, Casper Zwierlein; Contractor, Casper Zwierlein; amount, $2,645; sureties, J. F. Kennedy; signed, September 14; filed, September 14; limit, 80 days.

Payments: framed, $600; brown coated, $800; completed, $645; balance 35 days.

Main, between Mission and Howard, two story frame building. Owner, Geo. H. Mixer; architect, Geo. H. Mixer; contractor, Jno. G. Day; amount, $4,500; signed, September 13; filed, September 14; limit, 21 days.

Payments: framed, $1,650; battened, $1650, completed, $1.200, balance 35 days.

Waller near Buchanan, two-story basement frame. Owner, Louisa Otto and Gottlob A. Mauerhaus; architect——; contractor, Rountree Bros.; cost, $4,400; signed, Sept. 20, 1888; filed, Sept. 28, 1888; limit, 90 days; sureties, Jno. Coop and F. R. Latson; amount of bond, $4,000.

1st payment, when framed, $800; 2d, when enclosed, $800; 3d, when brown coated, $800; 4th, when completed, $800; 5th, usual 35 days, $200.

728 Fulton, building. Owner, Margaret McGinney; contractor, Geo. M. Salsbury; cost, $1,800; signed, September 21st, 1888; filed, September 25th; limit, December 1st.

1st payment, when framed, $450; 2d, building enclosed, $450; 3d, when brown coated, $450; balance, usual 35 days.

Oak, near Gough, building. Owner, Jno. Madden; architect, R. Warren; contractor, Charles Coady; $1,275; limit, November 20th, 1888; signed, September 18th; filed, September 26th.

1st payment, when ready to paint, $425; 2d, carpenter work done, $425; 3d, usual 35 days, $425.

215 Fell, in rear, frame shed. Owner, A. Larfargue; architect, B. E. Henricksen. contractor, Moore Bros.; cost, $1,445; limit, October 29th; signed, September 22d; filed September 24th.

1st payment, when building is completed, $1,085; balance, usual 35 days, $360.

Stewart, between Mission and Howard, one-story brick. Owner, S. Harris; architect, J. Marquis; contractor, R. Parker; cost, $2,700; limit, 63 days; signed, September 26th; filed, September 27th.

1st payment, when walls are up, $1,000; 2d, when completed, $1,000; 3d, and balance, usual 35 days, $700.

Waller, near Webster, one-story frame. Owner, Jno. Michel; architect, John & Zimmerman; contractor, J. Klein; cost, $2,587; signed, September 25th; filed, September 27th; limit, December 8th.

1st payment, when framed, $600; 2d, when rough coat is on, $800; 3d, when ready to paint, $537; balance, usual 35 days, $650.

Filbert, near Jones, two-story and basement frame. Owner, Fred. Todt; architect, John & Zimmerman; contractor, A. Rohling; cost, $3,900; limit, December 15th; signed, September 12th; filed, September 24th; sureties, J. J. McKinnon and F. Joost.

Fulton, near Franklin, two-story frame and basement. Owner, T. Kronenberg; architect, John & Zimmerman; contractor, Fuchs & Bucher; cost, $8,096; limit, January 2d; signed, September 13th; filed, September 24th; sureties, W. Hume & Kroenecke.

Fuller, near First avenue, frame attic and basement. Owner, Sophie Henicke; architect, H. T. Bestor; contracter, R. P. Traxler; $2,660; signed, September 26th; filed, September 27th; limit, 90 days.

1st payment, when framed, $400; 2d, when rough coat is on, $550; 3d, when windows are in, $550; 4th, when completed, $490; balance, usual 35 days, $670; surety, C. A. Malm; amount of bond, $900.

Castro, between 16th and 17th, building. Owner, Wm. J. McAllup; contractor and builder, J. A. Shepherd; cost, $3,700; signed, Sept. 27, 1888; filed, Sept. 27 1888; limit, Jan. 1, 1889.

1st payment, when framed, $920; 2d, when brown mortared, $950; 3d, when completed, $950; 4th and balance, usual 35 days, $950.

Eddy, between Polk and Van Ness avenue, frame building, painting contract. Owner, Geo. Haas; architect, J. H. Littlefield; contracter, Jos. Larsen; cost, $720; signed, September 26th; filed, September 29th; limit, 16 days.

Payment, 75 per cent. as work progresses

Eddy, between Polk and Van Ness avenue, plumbing contract. Owner, Geo. Haas, architect, J. H. Littlefield; contractor, Sweeny & Kearns; cost, $900; signed, September 26th; filed, September 29th; limit, 12 days.

Payments, 75 per cent. as work progresses.

Twenty-sixth and Valencia, plumbing. Owner, A. E. Hecht; architect, H. C. Macy; contractors, Duffy Bros.; cost, $1,770; limit, Nov. 10, 1888; signed, Sept. 16, 1888; filed, Sept. 27, 1888.

When completed, $1,770.

Church, between 23d and 24th, one-story cottage. Owner, Geo. A. Rice; architect, Schmidt & Shea; contractor, Martin & Maguire; cost, $2200; limit, 90 days; signed, September 21st; filed, September 25th; surety, F. P. Latson.

1st payment, when building is framed, $400; 2d, when brown coated, $400; 3d, when white coated, $400; 4th, when completed $400; 5th, usual 35 days, $600.

Elm Ave., between Van Ness and Franklin, building. Owner, Martin O'Dea; architect, Chas. I. Havens; contractor, Wm. Pluns; cost, $5,870; signed, September 26th; filed, September 28th; limit, 90 days; sureties, F. & B. Joost.

1st payment, framed, $1,000; 2d, brown coated, $1,000; 3d, hard finished and outside primed, $1,000; 4th, completed, $1,170; 5th, usual 35 days, $1,700.

Hartford, near 19th, building. Owner, M. Dolan; architect, J. J. Clark; contractor, R. O. Chandler; cost, $3,140; limit, 90 days; signed, September 22d; filed, September 28th; sureties, E. Aigeltinger and C. A. Bennet.

1st, framed, $750; 2d, brown coated, $750; 3d, inside finish on, $750; 4th, balance 35 days, $890.

Sonoma, between Utah and Nebraska, one story car house and stable. Owner, Omnibus Cable Company; contractor, H. A. Conrad; cost, $6,665; limit, 30 days; signed, September 29th; filed, October 1st; Payments, 75 per cent as work progresses.

Green near Laguna, one-story and basement frame. Owner, Mary Coghlan; architect, John & Zimmerman; contractor, Reichley & Vierhus; cost, $1,900; limit, December 8th; signed, September 24th; filed, September 24th; surety, F. Joost.

1st payment, when frame is up, $500; 2d, when rough coat is on, $425; 3d, inside ready to paint, $500; balance, usual 35 days, $475.

Eddy, between Polk and Van Ness avenue, frame building. Owner, George Haas; architect, J. H. Littlefield, contractor, Jas. Logan; cost, $9,378.

Payments at the rate of 75 per cent as work progresses; balance, usual 35 day

Linden Ave: in rear of 510 Fell, stable. J. Silverstein; architect, Townsend & Wyneken; contractor, R. Parker; cost, $1,200; limit, five weeks; signed, September 29th; filed, October 1st.

1st payment, foundations in $300; 2d, framed and roofed, $300; 3d, completed, $300, January 18, 1889.

Nineteenth, between Church and Sanchez frame building. Owner, Bridget Murphy; contractor, R. Sinnot; cost, $2,000; signed, September 17th; filed, September 29th; limit, 75 days; surety, H. C. Smith.

1st payment, framed $500; 2d, brown coated, $500; 3d, inside ready to grain, $500; 4th, usual 35 days, $500.

Twenty-eighth, between Church and Sanchez frame building. Owner, J. Sullivan; architect, M. J. Welsh; contractor, K. Thaller; cost, $1,700; signed, September 29th; filed, October 1st; limit, 65 days; sureties, C. Ewing and A. Black.

1st payment, roof on, $300; 2d, brown coated, $300; 3d, completed, $400; 4th, balance 35 days, $700.

Mission and Sullivan alley, three-story basement building. Owner, W. A. Aldrich; contractor, Richardson & Gale; cost, $9,000; limit, 60 days; signed, September 20th; filed, October 5th.

Broderick, between Hayes and Fell, two-story and basement frame. Owner, E. W. Hartmann; architect, John & Zimmerman; contractor, J. G. Adams; cost, $3,999; limit, January 1st, 1889; signed, September 28th; filed, October 6th.

1st payment, when frames are up, $800; 2d, when building is enclosed, floors laid, partitions set, rough mortar on, $1,200; 3d, when inside finish is ready for painter, $1,000; 4th, after acceptance or releases given or usual 35 days, $999.

Eighteenth near Sanchez, additions. Owner, Fleicher; cost, $800.

Walla and Steiner, two-story frame. Owner, R. Reiman; architect, A. H. Bailey, Jr.; contractor, A. H. Bailey, Jr.; cost, $3,000; limit, Dec. 15, 1888; signed, Sept. 15, 1888; filed, Oct. 4, 1888.

1st payment, when frame is up and building enclosed, $1,100; 2d, when hard finished, $1,000; balance at the completion of the building and the owner satisfied that all bills are paid.

Broderick, between Sutter and Bush, two-story frame. Owner, F. Leszynsky; architect, Wm. H. Armitage; contractor, Kincaid & Thompson; cost, $3,000; limit, 70 days; signed, Sept. 18, 1888; filed, Oct. 5, 1888.

1st payment, rough frame up, $600; 2d, brown mortar on, $600; 3d, white coat on, $450; 4th, finished and accepted, $600; 5th, 35 days, or on production of receipted bills, $750.

Scott near McAllister, one-story frame and basement. Owner, J. S. Antonelli; architect, J. Gash; contractor, John McCann; cost, $2,500; limit, 60 days; signed, Sept. 29; filed, Oct. 3.

1st payment, when framing, rustic and roof boards are on, $500; 2d, when brown coat of mortar is on, $500; 3d, when white coat of mortar is on, $500; 4th, when all inside work is completed and work accepted, $375; 5th, 35 days after work is accepted, $625.

Sacramento, between Larkin and Polk, two-story frame. Owner, L. A. Berteling; architect, M. J. Welsh; contractor, H. A. Conrad; cost, $4,800; limit, 70 days; signed, Oct. 3; filed, Oct. 6, 1888.

1st payment, when frame is up, $1,200; 2d, when brown coated, $1,200; 3d, when finished and accepted, $1,200; 5th, usual 35 days, $1,200.

Fourteenth near Noe, additions; cost, $1,500.

Grove near Lyon, one-story frame; cost, $1,500.

Noe near Fourteenth, two-story frame. Owner, J. Stelling; cost, $1,000.

Page near Schrader. Owner, Cook; builder, G. G. Gillespie; cost, $2,000.

Sanchez near Eighteenth, one-story frame. Owner and builder, A. Klahn; cost, $2,000.

Taylor near California, repairs; cost, $800.

Octavia and Vallejo, four two-story frames. Owner and builder, W. F. Lewis; cost, $15,000.

Spear near Howard, one-story frame. Owner, H. B. Schindler; cost, $1,500.

Spear corner Mission, repairs. Owner, Schwerin; cost, $1,500.

COUNTRY BUILDING NEWS.

LOS ANGELES.

TO BE ERECTED IMMEDIATELY.

J. B. Lankershim, three-story brick, Sixth and Front streets; two double houses Sixth and Front street.

J. F. Smith, lodging house, Olive and Fifth streets.

R. H. Leonard, engine house, Pine and Hill streets, and twenty-seven houses to cost when completed about $500,000.

SAN JOSE.

A builder's contract has been filed in the Auditor's office between Jesse J. Hill, contractor, and Mrs. J. C. Martin for the construction of a two-story brick building on the east side of Second street between Santa Clara and San Fernando streets, consideration $25,588.

Another contract has been filed between E. Strauss and Robert Summers, contractor, for the brick addition of a second story to a building on Second street; consideration $5,187; to be completed on the 15th of December.

SAN DIEGO.

The plans of the new Consolidated National bank building are now almost com pleted in Comstock & Trotsche's office. Two stories will be added to the present building, and the whole structure will be remodeled. When completed it will be 50 x 90 feet in size and four stories in hight, with a basement. Substantial materials will be used throughout, and in appearance the building will be one of the most elaborate and imposing structures in the city. There will be an elevator and all modern improvements. On the Fifth street front there will be a very elaborate ornamentation of terra cotta tiling and other stone. The main entrance, on G street, will be very wide and imposing in appearence. The change in the arrangement of the banking room is almost completed. Bids are now being taken for the excavating and stone and iron work, and orders are being prepared, for such materials as will have to be imported. The work of construction will begin soon.

No bids have been received for the work on the Pauly-Gassen block, to be erected on the corner of Fourth and E streets. The work of preparing bids is necessarily slow becaue of the immense size of the structure. The bids are expected in a few days, however, and shortly hereafter the work of construction will begin.

Comstock & Trotsche have prepared plans for a neat two-story, ten room cottage, to be erected on K street, between Twenty-second and Twenty-third. D. W. Strong is the owner.

The United Presbyterians have had plans prepared for a new church building to be erected in Sherman's addition. Mr. Schroeder is the architect. The design is said to be one of the finest in the city, in some respects the very finest. The entire structure will cost about $15,000. At present it is only proposed to build the lecture-room, at a cost of about $2,500. This will be built so that the main building can be added to it later. Its size will be 27 x 53 feet. Rev. R. G. Wallace is pastor of this congregation.

During the last thirty days Building Inspector Thielen has granted permits for the erection of twenty-eight buildings, the cost of which will be $681,035. The following is a complete list of the permits granted:

BUILDING PERMITS.

E. F. French, two-story frame dwelling, lot K, block 33, Middletown; $2,500.

A. G. Nason, one-story five-room dwelling, Horton's addition; $1,310.

Henry Timken, two-story and basement frame dwelling, Horton's addition; $10,000,

Joseph Horpey, one-story brick store. Horton's addition; $2,500.

Mrs. Emma J. Koehler, one-story five-room dwelling, Horton's addition; $1,000.

Comstock & Trotsche, one-story frame schoolhouse, Mission Valley; $1,300.

F. S. Jennings, two-story frame dwelling, New Roseville; $3,000.

George H. Crippen, two-story frame dwelling, New Roseville; $3,000.

F. E. Johnson, superintendent of the college of arts of university of Southern California on campus on University Heights; $600,000.

B. Barnes, two-story frame dwelling, Horton's addition; $2,500.

H. E. Fellow, two-story frame dwelling Horton's addition; $3,000.

W. B. Woodward, two-story frame dwelling and barn, Horton's addition; $5,000.

Central Market Company, two story brick store and offices, 50x200 feet, Horton's addition; $16,000.

John Allyn, three-story brick building, 50x100 feet, Horton's addition; $16,000.

Rev. R. G. Wallace, frame church, Sherman's addition; $2,500.

RIVERSIDE.

The contract for building the residence of F. T. Field has been let to L. C. Waldman for $1,219. Work will be commenced at once.

SAN BERNARDINO.

Judge Rolfe will build an $8,000 house. Goff & Leyfe will prepare plans.

SACRAMENTO.

E. A. Bovyer has the contract to erect State Printing office warehouses, $8,464.

TACOMA, W. T.

Architect C. N. Daniels has charge of A. Parker's brick building, W. M. Masterton is the contractor. Cost $11,000.

DISINCORPORATING.

The Pine Manufacturing Company has applied to the Superior Court to be judicially disincorporated. The company dates as a corporation from May 31, 1883. It started with a capital stock of $200,000, in 2,000 shares, of which 1,755 shares have been issued. At a recent meeting of the stockholders, it was resolved by a vote of 1,000 shares to disincorporate. The petition sets forth that all liabilities have been satisfied. The present Directors are: E. B. Dean, W. J. Adams, G. W. Watson, A. D. Moore, C. S. Holmes, E. W. Bushnell, E. M. Harrick, Benjamin Pendleton, J. Knowland, A. A. Jackson and W. H. Talbot.

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Gorman, M. J.,	527 Octavia.
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Greene, E. B.,	34 Hawthorne.
Greene, S. T.,	San Diego.
Griffin, P.,	20 Russ.
Hoffmann, Victor Jr.,	515½ 4th.
Houston, Geo.,	2068 Market.
Hatch, H. E.,	1717 Chaste, Oakland.
Hurlbut, R. P.,	115 California avenue.
Irwin, James,	908 16th.
Ingerson & Gore,	971 Broadway, Oakland.
Jackson, A.,	12 Middle.
Keenan, Hugh,	219 Scott.
Kent, S. H.	711 Leavenworth.
Kern, F. W.,	118 Fair Oaks.
Kincaid & Thompson,	730 Seventeenth.
Klahn, Aug.,	5 Chenery.
Klatt, F.,	814 Twenty-first.
Klein, Jacob, 24	Lilly avenue.
Kreger, Wm. B.,	801 Guerrero.
Lang, Geo. R., E.	14th St. & 14th Ave., Oakland.
Leonard, Jos. A.,	Alameda.
Langstaff, Wm.,	617 Jessie.
Lynch, M. C.,	28 Stanley Place.
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Maher, J. W.,	105 Precita avenue.
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McCann, Richard,	217 Waller.
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McKay, Jas. H.,	124 Main.
Mead, W. H.,	246 Minna.
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Moffit, Thos.,	Victoria.
Moore Bros.,	252 Octavia and 1 Russ.
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Plums, Wm.,	3109 Sacramento.
Quinn, Charles,	133 Oak.
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Reichley & Vierhus,	1910 Market.
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Robertson, John,	San Rafael.
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Smith, James W.,	1220 Eddy.
Sullivan, Timothy,	20 Laskie.
Taubman & Armstrong,	3109 Mission.
Terrill, Chas. C.,	617 Seventeenth.
Thompson & Moar,	338 Golden Gate Av.
Townsend, H.,	Alameda.
Waterbury, C. S.,	1322 Scott.
Wharff, Wm. H.,	Green and Laguna.
White, O. E.,	879 Seventeenth.
Wilcox, J. R.,	608 Willow Av.
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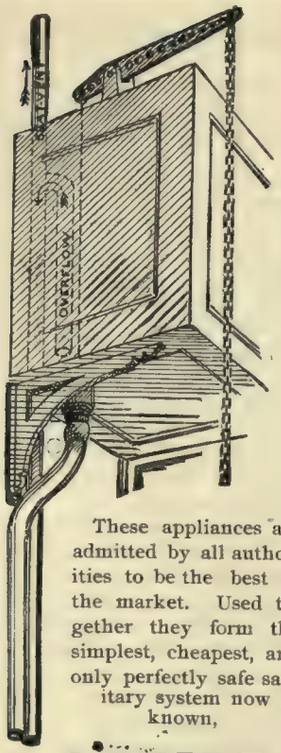
Carpenters of the Bible.

Though the trade is not definitely mentioned in Scripture prior to the time of Noah, yet it is clear that carpentering work had been effected centuries before. Noah could not have constructed the ark of gopher wood and made it so correct as to dimensions; he could not have joined the pieces together; he could not have formed a window and door such as would open and close, without some knowledge of carpentering and some acquaintance with the tools of a carpenter. Moreover the tools must have been in existence and in use prior to this time, which of course suggests that carpentering must have been practiced in the patriarchial times. Amid all the changes which occur in the history of varied handicraft, it is interesting to find that the same trade implements as are used to-day were in full use in the childhood of the world. The carpenter about to begin work selects a piece of timber which he calls a plank, or a slightly thinner piece which he calls a board. Such are the phrases used concerning the tabernacle and the temple. God said, "Thou shalt make boards for the Tabernacle of shittim wood. Ten cubits shall be the length of a board and a cubit and a half shall be the breadth of one board." Then in the first book of Kings we find Solomon built the walls of the temple with "boards of cedar," and covered the floor with "planks of fir." In order to shape the plank or board, the carpenter uses a saw; and such a tool was known to and employed by the workers in the early times, for we read of the "hewed stones" being "sawed with saws" for the foundation of Solomon's temple. To fashion the wood according to the needed purpose, the carpenter must have at hand his rule, his line, his plane and his compass. And so Isaiah the prophet says: "The carpenter stretches out his rule; he fitteth it straight and he marketh it out with a line; he fitteth it with planes and he marketh it out with a compass." Very often the carpenter has to join various pieces of wood by what he terms a mortise and tenon, that is to say, the mortise is a hollow place or socket in one piece of timber, into which the tenon or projecting piece, cut to exact measurement in the other piece, is intended to fit. But those are God-used terms. The Almighty, in giving the Israelites full directions for the contruction of the Tabernacle, said: "Two tenons shall there be in one board, set in order one against another; thus thou shalt make for all the boards of the Tabernacle. And thou shall make forty sockets of silver under the twenty boards, two sockets under one board for its two tenons and two sockets under another board for its two tenons."—*Wood Worker.*

INDUSTRY.

John Richards has started a new journal devoted to science, mechanic art and the industrial interests of the Pacific Coast. Its pages are well illustrated with all the various patterns of machinery, and in this branch it is the only journal published on the coast. All the illustrations are made by an improved process and show very distinctly all the various details. Editorially, it excels in its particular line, any of our contemporaries this side of Chicago. It is published at the low price of $1.50 per annum. Address Industrial Publishing Co., 40 California street.



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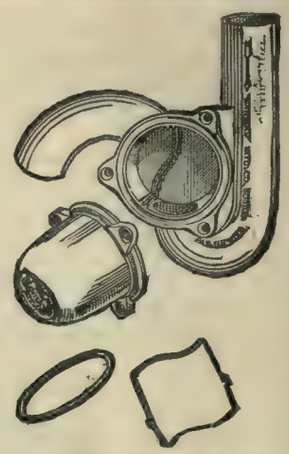

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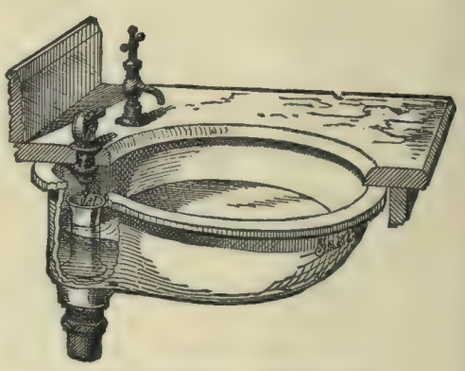

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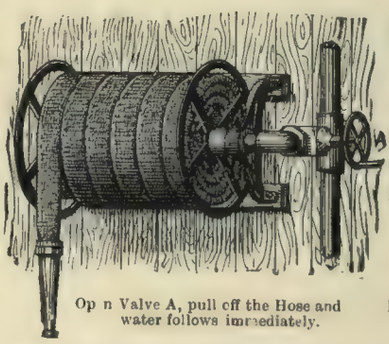

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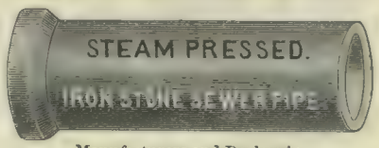

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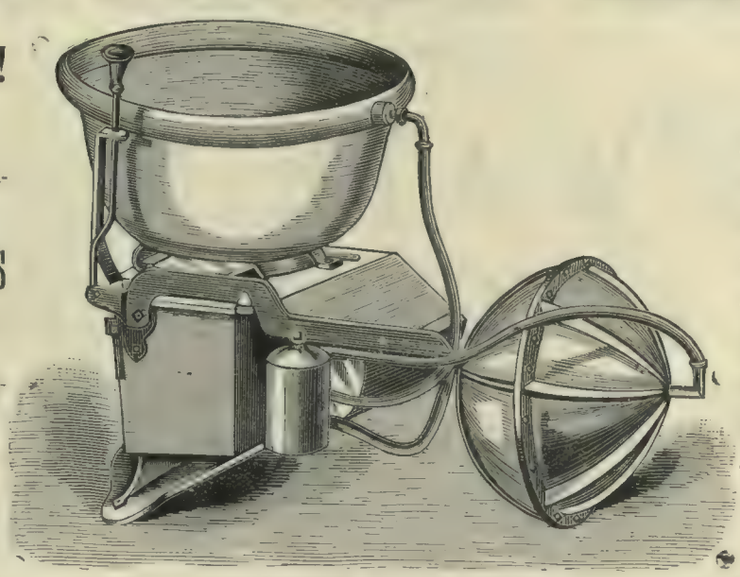

A written guarantee is given with each Closet that money will be returned, after six months trial, and any other closet substituted in its place if this closet is not in the fullest sense, EVERYTHING that is claimed for it,

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This Chimney consists of the following parts: A smoke flue A, of fire clay, in 2 feet lengths, with rebated joints and galvanized iron bands over each joint. These bands with projections, will also keep in position a galvanized iron exterior pipe B, forming an air space around the smoke flue, which may be divided into two apartments—the one for fresh, the other for foul air. The outside pipe is put up in two feet lengths also, and the whole is bound together and secured to the studding by iron bands C every four feet.

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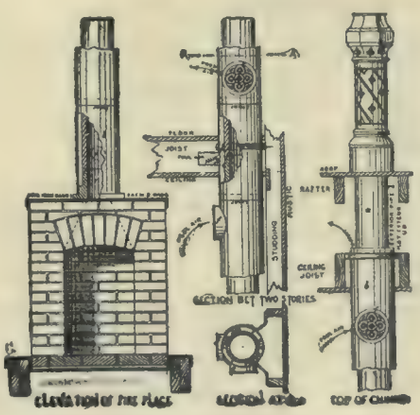

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up, becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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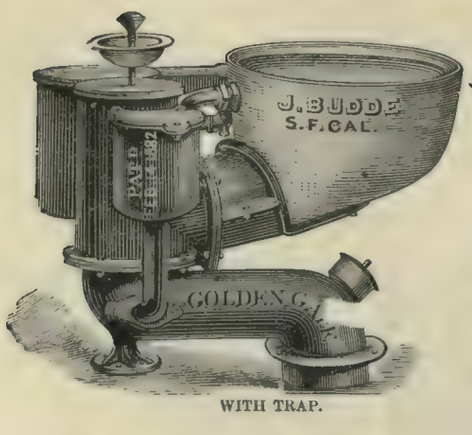

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3. It has no dead corner, consequently no foul water will be left in the closet after the lifting of the handle. A constant rush out of the flood chambers will keep the closet and trap perfectly clean.

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This hopper is constructed to take 2 2-inch pipes, one to the right and one to the left and a 4-inch leader in the center. It has also a movable strainer on top to take the surface water. The lower part of the hopper with side outlet is to be connected with the sewer pipe, either right or left. The upper part is independent from the lower, and is made to swivel, therefore it will suit either position of pipe. This hopper can be used only for surface, for waste, or for leader; either inlet will be stopped up with iron caps if so desired.

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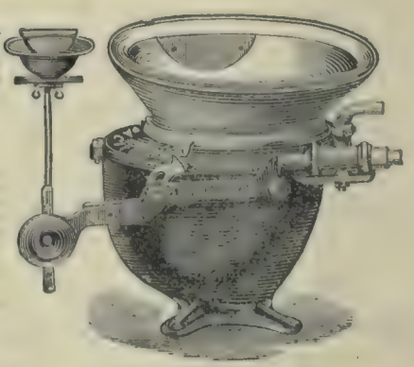

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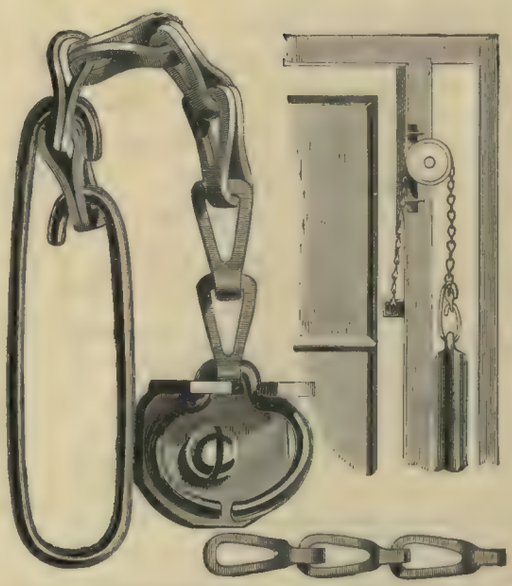

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Our work is in use all over the Pacific Coast, and has proved first-class in every particular.

E. G. DENNISTON,

Proprietor San Francisco Gold, Silver and Nickel Plating Works.

653-655 MISSION ST. San Francisco, Cal.

The Durability of a Roofing Tin is the Test of its Value.

The following advertisement of an Insurance Company is in the October number of Scribner's Magazine:

"When two brands of the same sort of goods are selling side by side in the market, one bringing double the price of the other, what is it that enables the other to find sale? Always, because it is worth that much more; because it will wear longer, do better service while it lasts, keep one satisfied with his purchase instead of kicking himself for a fool all the time he has it, be reliable at the sharpest emergency instead of liable to give out just when it is needed most. And the concern dealing in such goods *has* to charge more for them because it costs more to make them." * * * * * *

This is most aptly illustrated in the case of Genuine Taylor *"OLD STYLE"* Brand of Roofing Plate.

WHY?

BECAUSE

1.—It costs more to make.
2.—It is therefore worth more.
3.—It will wear longer and do better service.
4.—It will be reliable in the sharpest emergency instead of giving out just when it is needed the most
5.—It has been tried over a long number of years and never found wanting.
6.—It is the only brand of Roofing Tin that is imitated, and THEREFORE MUST BE GOOD.
7.—It has never failed to receive a contract against all competitors when tested by practical mechanics.
8.—It is sold only at a moderate profit on the cost.
9.—It does not trade upon the reputation of any other brand.
10.—It is sold under every guarantee that can be exacted.
11.—It is the only Roofing Tin that bears the name and address of the guarantor.
12.—It it therefore the only Plate that affords absolute security to property-owners, architects and honest contractors.
13.—It is the only Plate that is stamped not only with the brand, thickness and registered trade mark, but also with the name and address of the guarantor.

There are no Wasters of this Brand. Paradoxical as it may seem,

THE BEST ROOFING TIN IS THE CHEAPEST.

Those wanting THE BEST that can be made at any cost will use the Genuine Taylor "OLD STYLE" Brand, which is the only Roofing Tin that can be offered under the above conditions.

N. & G. TAYLOR CO.,

Originators of Stamped and Guaranteed ROOFING PLATES,

PHILADELPHIA.

ESTABLISHED 1810. SEVENTY-NINTH YEAR.

PACIFIC ROLLING MILL COMPANY.

SAN FRANCISCO, CAL.

RAILROAD
— AND —
MERCHANT IRON,

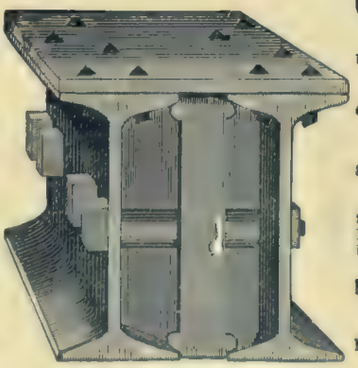
ROLLED BEAMS,

Angle, Channel and T Iron, Bridge and Machine Bolts,

Lag Screws, Washers, Nuts, Ship and Boat Spikes, Boiler Rivets, Coil Chain, Harrow Teeth, Tire Rivets and Burs, Turnbuckles, Etc., Etc.

STEAMBOAT SHAFTS, CRANKS, PISTONS, CONNECTING, RODS, ETC.

Highest Price Paid for Scrap Iron. Car and Locomotive Axles and Frames, and Hammered Iron of Every Description.



MANUFACTURERS OF

CAST STEEL CASTINGS

And Steel Forgings,

Up to 20,000 lbs. Weight, true to pattern and superior in strength, toughness and durability to Cast or Wrought Iron in any position, or for any service.

Gearings, Shoes, Dies, Cams, Tappets, Piston-Heads, Railroad and Machinery Castings of every description. Also,

HOMOGENEOUS STEEL,

Soft and Ductile. Superior to Iron for Locomotive, Mining and Marine Forgings.

Also, Steel Rods from ¼ to 3 inch diameter, and Flats from 1 to 8 inch, Angles, Tees, Channels, and other Shapes; Steel Wagon, Buggy and Truck Tires, Plow Steel Stamp Steels, Cam Shafts, Piston Rods, Machinery, and Special Shape Steel to size and length.

Steel Rails From 12 to 45 Pounds per Yard.

IRON AND STEEL BRIDGE, ROOF AND RAILROAD CAR WORK A SPECIALTY.

Highest price paid for Scrap Steel. Orders will have prompt attention. Send for catalogues.

PACIFIC ROLLING MILL CO.,

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Smelting and Lead Co.,

—Manufacturers of—

LEAD PIPE, SHEET LEAD,
LEAD SASH WEIGHTS,
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SHOT, BAR LEAD,
PIG LEAD, SOLDER,
ANTI-FRICTION METAL,
BLUE STONE,
BLOCK TIN PIPE, Etc.

Also Machine Loaded Shot Gun Cartridges.

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NO. 416 MONTGOMERY STREET, S. F. CAL.

Refiners of Gold and Silver Bars and Lead Bullion. Lead and Silver Ores Purchased.

IMPORTANT

TO ARCHITECTS, BUILDERS, HOUSE PAINTERS, DECORATORS, BOAT BUILDERS AND YACHTSMEN DESIRING AN

EXTREMELY DURABLE FINISH FOR WOOD.

Are superior to any Varnishes or Wood Finishes in the market, for the following reasons, viz.:—

They possess more body, higher luster, greater resisting properties to atmospheric influences, action of water and alkali, are more elastic, will not scratch nor mar white, and are more durable.

ROSENBERG'S TRADE ELASTICA MARK REGISTERED FINISHES NO. 1 & NO. 2.

For all classes

INSIDE WORK

Requiring great durability, use No. 2 ELASTICA FINISH.

For

OUTSIDE WORK

Requiring extreme durability, use No. 1 ELASTICA FINISH.

Manufactured by

STANDARD VARNISH WORKS,
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WORKS:
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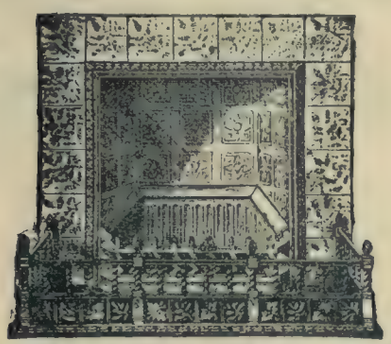
Office, 207 Avenue D, NEW YORK.

Send for Samples and Full Particulars.



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Made in representation of Ancient and Modern Marbles, and Woods of all kinds, Laurel, Black Walnut, Rosewood, etc.

Handsomer, More Durable, and Cost Less than Marble, Slate, or Wood.

ENAMELED, POLISHED,
— AND —
NICKEL-PLATED

GRATES.

BRASS AND NICKEL-PLATED

FENDERS

RANGES

French (set in brick), Portable and Wrought Iron, all sizes, latest and most

IMPROVED PATTERNS.

Tiles! Tiles!

ARTISTIC DESIGNS.

Encaustic, Plain,
Art Painted, Glazed,
and Majolica Tiles,

— FOR —

Mosaic Flooring, Fireplaces, Mantel Facings, Paving, Furniture, Flower Boxes, Vestibules, Hearths, Conservatories, Walls, and other Architectural Decorations,

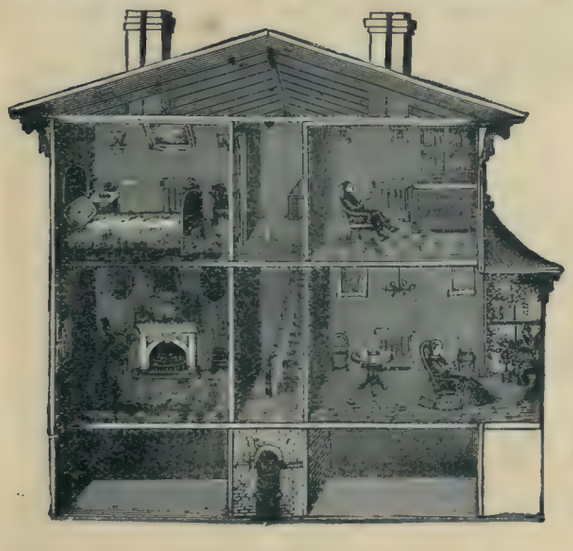
Imported Direct from the Celebrated

English Tile Works, Stoke-Upon-Trent.

W. W. MONTAGUE & CO.,

Nos. 309, 311, 313, 315, and 317 MARKET STREET,

Hot Water AND Steam Heating



For all Classes of Buildings.

I have introduced this system in over 400 houses on this Coast where it is now in operation. All work Guaranteed.

Sole Manufacturer of

HARVEY'S HOT WATER RADIATOR AND BOILER.

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BUNDY'S PATENT STEAM AND HOT WATER RADIATOR.

Also Agent for

Gold's Improved Sectional Boiler for Low Pressure Steam.

Office, 29 New Montgomery Street, under Grand Hotel.

Illustrated Circular furnished on application.

HARVEY & GRAVES.

Hot Water Hot Air and Steam

HEATING

A SPECIALTY

Churches, Hotels, Public Buildings, Private Dwellings, Conservatories, Green-Houses, etc., heated by the most improved methods.

All Work Fully Guaranteed.

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RADIATOR, for Hot Water or Steam Heating

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COOKS BROTHERS,

108 & 110 POST ST., SAN FRANCISCO.

W. E. SHEPMAN. A. RUDGEAR.

SAN FRANCISCO NOVELTY PLATING WORKS.

GOLD, SILVER AND NICKEL PLATERS.

Electro-Bronzing, Grinding and Polishing, Grate and Fender Work.

All Kinds of Brass Goods Suitable for House Work, Designed and Made to order.

Improved Silver Plated Amalgamating Plates for Quartz Placer and Beach Mining, Furnished to order with Promptness and Dispatch.

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BRASS & NICKLE PLATED WINDOW & BAR FITTINGS.

THOS. LYTLE,

Manufacturer of Latest Improved

WEATHER STRIPS,

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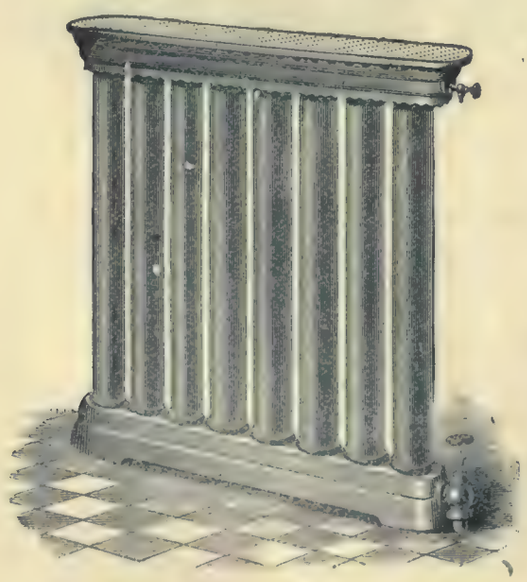
Asphaltum and Roofing Felt,

RED METALIC ROOFING PAINT,

TAR OIL and COAL TAR.

N. C. WALTON, 219 Mission St.

HOT WATER HEATING.



ESTIMATES FURNISHED

For Heating Public Buildings and Private Dwellings by the Most Approved

HOT WATER SYSTEM.

We Guarantee Perfect Heating, with Unequaled Economy of Fuel.

Our work in this line has given perfect satisfaction in every instance, and we will take pleasure in exhibiting its practical operation.

We also desire to call attention to our

HOT AIR SUNSET FURNACES,

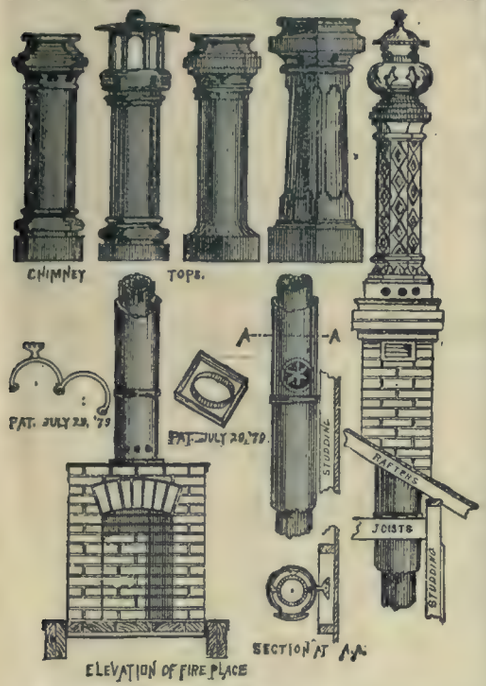
FRENCH RANGES,

SUNSET RANGES.

GEO. H. TAY & CO.

614 to 618 Battery Street, SAN FRANCISCO.

Browell's
PATENT CHIMNEYS



Endorsed by the Board of Supervisors and recommended for general use by Fire Wardens, Insurance Agents and Architects.

Only Patent Heating and Ventilating Chimneys In the Market.

Vitrified Iron Stone Sewer Pipe, Traps. Connections, Etc.

Terra-Cotta Chimney Tops, Pipes, and Flue Linings.

Orders for the above filled at short notice.

J. BROWELL,
Contractor and Builder,
727 MONTGOMERY STREET.

The "Camaret" Guaranteed Roofing Plates.

Every Sheet Stamped with name of Brand and Thickness
Every Box Guaranteed and stamped with Net Weight of Sheet
Every Box Strapped with Iron Hoops

NO WASTERS OF THE "CAMARET" BRAND IMPORTED.

Our guaranteed plates are controlled by us to the extent that we represent the manufacturers in the United States—they being under contract with us to keep up the standard quality of the plates in every particular—thus enabling us to carry out the following guarantees:

1st. That the coating is evenly distributed and heavy—thoroughly protecting the material.

2d. That while the present standard weights of the ordinary roofing plates are only 108 lbs for IC 14 x 20 and 216 lbs for IC 20 x 28, we guarantee the "CAMARET" to weigh 110 lbs. for IC 14 x 20 and 220 lbs. for IC 20 x 28, with 28 and 56 lbs. extra added for crosses.

3d. That every sheet which passes inspection, and is shipped to us, is cut square to size, is evenly coated, and free from ragged or beaded edges.

4th. That in the assortment the inspectors rigidly exclude imperfect plates.

5th. That the plates will stand any strain encountered in working a Roofing Tin.

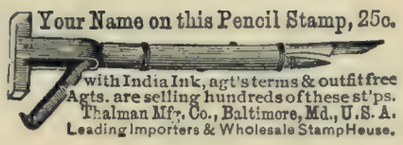
The "CAMARET" and "GILBERTSON'S OLD METHOD" are made of identically the same material, the only difference between them being that the former is not as heavily coated as the latter.

We carry all grades of the cheaper plates, and offer same in competition with and at lower prices than many of the brands advertised and represented as equal to the "CAMARET."

MERCHANT & CO.

PHILADELPHIA, NEW YORK, CHICAGO, LONDON.

USE THE STAR ★ VENTILATOR.



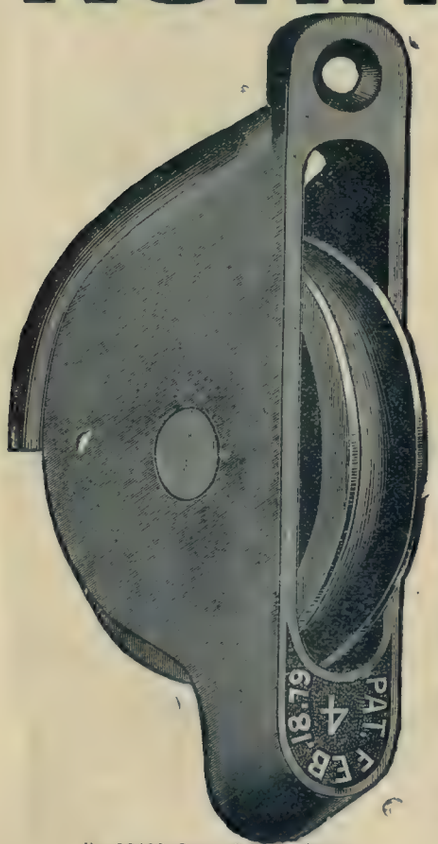
with India Ink, agt's terms & outfit free
Agts. are selling hundreds of these st'ps.
Thalman Mf'g. Co., Baltimore, Md., U.S.A.
Leading Importers & Wholesale Stamp House.

BRADSTREET'S
XL Weather Strips

Excludes Dust, Wind, Rain and Noise of the Street and PREVENTS RATTLING OF WINDOWS All Work Warranted.

A. B. BRADSTREET,
1323 Ellis Street

NORRIS PULLEY.



No. 00408, Page 42 in Catalogue

We make our Pulleys ANTI-FRICTION, GUN METAL PIN, Bronze Metal Wheel, and any quality wanted, from

We have over 500 different qualities of Chain wheel Pulleys.

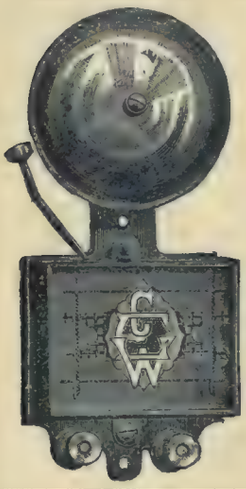
18 cents Per Dozen to $36. Per Dozen.

WE HAVE OVER 1600 DIFFERENT QUALITIES.

SEND FOR SAMPLE.

C. SIDNEY NORRIS & CO.,

BALTIMORE, - - MD.



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PIONEER ELECTRICIANS,

Manufacturers of and Dealers in

Machinery and Supplies of all Kinds.

Sole Agents for the Celebrated Okonite Insulated Wires.

House Work a Specialty; Fire and Burglar Alarms, Annunciators, Push Buttons, Speaking Tubes, Electric Gas Lighting, Etc.

Special attention given to Wiring Residences and Business Houses

Office and Works: 35 Market Street,

SAN FRANCISCO.

W. & J. SLOANE & CO.,

WHOLESALE AND RETAIL

Carpet and Upholstery Warehouse,

PERSIAN, INDIAN, TURKISH

AND OTHER

RUGS

Silk and Lace Curtains, Portieres, Window Shades, and Sash Curtain Goods.

DESIGNS FURNISHED FOR DRAPERIES AND LAMBREQUINS.

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Next Above Palace Hotel.

E. K. WOOD. S. E. SLADE. C. A. THAYER

SLADE & CO.,

Lumber Merchants,

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YARDS: Howard-Street Wharf and Steuart Street, opp. Office

SAN FRANCISCO, CAL.

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TELEPHONE 982. Mills on Gray's Harbor, Washington Ter

THE OFFICE OF THIS JOURNAL HAS BEEN REMOVED TO

408 CALIFORNIA STREET,

Next the Bank of California.

Beveled Plate Glass, "
Embossed "
Cut "
Crystalized "

By recent arrangement with the manufacturers of Ornamental Glass in New York City, we are enabled to furnish, at shortest notice, every Description, Size and Shape of the latest Modern Styles and of Superior Workmanship for Interior Finish, Bank Offices, Door Lights, Transoms, and building purposes in general.

Our moderate prices, choice of styles and designs, which we are prepared to submit to you will at once command your attention. French and German Looking-Glass Plates, plain and beveled, carried in stock in all leading sizes, and made to order. Estimates cheerfully furnished.

HAUSMANN BROS., NO. 1 SUTTER STREET, San Francisco, Cal.

CALIFORNIA WIRE WORKS.

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San Francisco, : : : : Cal.,

MANUFACTURERS OF

BANK, STORE, AND OFFICE

Railings of Wrought Iron or Wire,

WINDOW GUARDS FOR CHURCHES,

STORES, RESIDENCES, PUBLIC BUILDINGS, ETC.

CRESTINGS and FINIALS,

Elevator Guards, Balcony Railings, Wire Partitions, Skylight Guards, Wire Signs, Wrought Iron Fences, Sieves, Stable Guards, Riddles, Stable Fixtures, Coal Screens, Arbors, Sand Screens, Garden Arches, Window Screens, Wire Fences,
And a General Line of

Ornamental Wire Goods.

ELECTRIC IMPROVEMENT COMP'Y

Electric Street Railways,
American System of Electric Arc Lighting,
tandard Underground Co.'s Lead Covered Cables,
Mather's System of Incandescent Lighting

ELECTRIC LIGHT WIRES, LAMPS, ETC. ETC.

Estimates furnished for Electric Railways, Electric Light and Steam Plants.

Office—217 Sansome Street, San Francisco, Cal.

The * California * Architect * and * Building * News

VOLUME 10. ENTERED AT POST-OFFICE SAN FRANCISCO, AS SECOND-CLASS MAIL MATTER ESTABLISHED JANUARY, 1879. NUMBER 2.

NOW IN ITS TENTH YEAR!

THE

California Architect and Building News.

ESTABLISHED JANUARY, 1879.

Office, 408 California St., San Francisco.

(Next to the Bank of California.)

Official Organ of the San Francisco Chapter American Institute of Architects.

TERMS PER ANNUM, - - - - $2.00 IN ADVANCE

Published on the Fifteenth of each Month.

When money is sent for subscriptions, the receipt of a copy of this Journal is an acknowledgment that it has been received. Unless requested we do not send receipts.

OUR ADVERTISING RATES.

SPACE.	1 MONTH.	3 MONTHS.	6 MONTHS.	12 MONTHS.
1 Inch,	*$ 1 50*	*$ 4 00*	*$ 7 50*	*$ 13 00*
3 Inch,	*4 00*	*10 00*	*18 00*	*35 00*
6 Inch,	*7 50*	*18 00*	*32 00*	*60 00*
1 Column,	*12 50*	*35 00*	*65 00*	*125 00*
¼ Page,	*11 00*	*30 00*	*57 50*	*105 00*
½ Page,	*20 00*	*57 50*	*105 00*	*200 00*
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1 Page,	*40 00*	*110 00*	*200 00*	*350 00*

Full-page advertisements inserted among reading matter, fifty per cent extra on above rates.

Specially attractive advertisements, without extra cost, will be set up in the finest style where the advertiser furnishes cuts.

CASH MUST ACCOMPANY ALL ORDERS FOR ADS.

ADVERTISEMENTS ALONE INSERTED THAT REFER TO MATERIALS USED IN THE CONSTRUCTION AND FURNISHING OF HOUSES, AND TO MATTERS AND TRADES BELONGING TO THE BUILDING INTEREST.

NO OTHERS RECEIVED.

PARTICULAR NOTICE.—Each advertising page contains three columns, each of which is about two and a half inches wide. One inch means one inch in depth by two and a half inches in width.

Spaces on Cover and on page preceding reading matter are subject to special rates.

SAN FRANCISCO, FEB. 15, 1889.

CALIFORNIA ARCHITECT PUBLISHING COMPANY NOW HAS CONTROL OF THIS JOURNAL.

Articles of Incorporation of the above named Company have been received from the Secretary of State, and as soon as the By-Laws are prepared permanent officers will be elected.

Following are the Trustees named in the Incorporation papers to hold office for the first year:

ALBERT PISSIS, W. P. MOORE,
H. T. BESTOR, W. G. MATTHEWS,
OLIVER EVERETT, R. H. WHITE,
W. J. CUTHBERTSON.

Mr. Seth Babson has been intrusted with the duty of preparing the By-Laws.

Permanent rooms have been engaged at No. 408 California street, next to the Bank of California.

Direct all communications in future to the above address, as all business connected with the journal will be there transacted.

Secretary's office hours, 9 A. M. to 4 P. M.

NEW HEADQUARTERS.

Meeting of the San Francisco Chapter of Architects.

FOR the first time in the history of the State, those representing the Architectural Profession can lay the claim of possessing one of the neatest meeting rooms in the country. On the evening of February 1st the initial gathering was held. Many of those present were in the rooms for the first time, and uttered words of praise at the taste displayed in the selection of the carpets, chandeliers, chairs, etc. The main office is 16x36 feet in size, amply provided with light, and being on the sunny side of the street is warm enough without the necessity of keeping up a fire all day. In the rear of the main office are two large rooms, having conveniences of sun, light and water. A better location could not have been selected.

All Architects are invited to call and examine our rooms. Those from the country are cordially welcome.

S. F. CHAPTER, A. I. A.

The following members were present: G. H. Sanders, W. P. Moore, O. Everett, H. T. Bestor, J. E. Wolfe, Seth Babson, R. H. Daley, John Wright, W. H. Cuthbertson, J. M. Curtis, C. O. Laver, C. H. Hasty, J. Gash, G. H. Wolfe.

President G. H. Sanders occupied the Chair.

Report was received from the Committee appointed to confer with a like Committee from the Builders' Association, to prepare a proper form for a *Memorandum of Contract* to be filed in Recorder's office.

The Chairman, Seth Babson, presented proof copies of the form as prepared, to each member of the Chapter. Following is the document in full:

Memorandum of a Contract,

Made in writing, and executed and subscribed by the parties, at the City and County of San Francisco, the.....day of..... 18

FIRST.—The names of all the parties to said contract are .....who is designated therein as the Owner, and..... who is designated therein as the Contractor.

SECOND.—The property to be affected by said contract is situated in the City and County of San Francisco, State of California and is particularly described as follows, to wit: Commencing at a point on the .....line of.....street, distant .....feet.....from the.....of..... street, thence..... to the point of commencement.

THIRD.—The general character of the work to be done under said contract is as follows, to wit: The said..... as Contractor, agrees with the said..... as Owner, to furnish the necessary labor and materials, including tools, implements and appliances required in the execution of ..... in a workmanlike manner, in conformity with the plans, drawings and specifications for the same, made by.....the authorized architect employed by the owner, and which are signed by the parties hereto, and are to be kept and remain in the office of said architect, subject to the inspection of the parties hereto and others concerned in said erection.

FOURTH.—The total amount to be paid under said contract is the sum of.....Dollars, in U. S. Gold Coin, which sum is to be paid to the said contractor by the said owner in partial payments.

FIFTH.—The amounts of all partial payments, together with the times when such payments shall be due and payable, are as follows, to wit:.....

After a discussion, indulged in by all present, the form was unanimously endorsed by the Chapter.

A Committee of two—Wright and Daley—were appointed by the Chapter, to confer with the California Architectural Publishing Co., for the purpose of engaging the offices under control of the latter, as a permanent meeting room for the Chapter.

A Supreme Court Decision of Great Interest to Contractors.

IN BANK.

[Filed December 8, 1888.]

RENTON, HOLMES & Co. vs. GEORGE MONNIER. } No. 11,344.

It appears from the record in this case that on the 14th day of April, 1882, the defendant entered into a written contract with one Valentine H. Harding, to construct for him a building on Howard street, in the city of San Francisco, for the sum of $8,957, to be paid in installments as the work progressed, and the first payment of $1,000 to be made when the frame was up to the second-story floor, including the second-story floor joists and frame of sidewalk.

It was provided that the building should be constructed "according and conformable to the drawings and specifications made by William Mooser, architect," and "in a good workmanlike and substantial manner, to the satisfaction and under the direction of the said William Mooser, the duly authorized architect, to be testified by a writing or certificate" under his hand.

The payments were to be made by defendant to Harding, his executors, administrators, or assigns, "provided that in each case a certificate be obtained and signed by the said William Mooser, architect, that said works have been done in the most substantial and faithful workmanlike manner, to the approval and full satisfaction of said architect."

On the 15th of April, 1882, Harding assigned to the plaintiffs the several payments to be made to him under the contract, by a written assignment which directed the architect to deliver to plaintiffs the certificates, and directed the defendant to pay to plaintiffs the several payments as they should fall due.

The contractor commenced his work and the first payment of $1,000 became due on the 29th of April, 1882. On that day the architect gave his certificate to Harding, and the defendant paid him the $1,000, and subsequently refused to again pay the money to the plaintiffs.

The plaintiffs claimed that defendant had notice of the assignment and wrongfully paid the $1,000 to Harding, and they brought this action to recover the same.

The case was tried by a jury and the verdict and judgment were in favor of defendant. The plaintiffs moved for a new trial, which was denied, and then appealed from the judgment and order.

The principal question is: Did the defendant have notice of the assignment before he paid the money? If he did, the ptaintiffs were entitled to recover, and if not, they could not maintain their action.

It was proved that notice of the assignment was given to the architect on or about the 21st of April, and it is claimed for the appellants that this was constructive notice to the defendant and conclusively settled the question. Whether this claim is well founded or not depenes upon the extent and character of the architect's agency. The rule is well settled "that notice to an agent of facts arising from or connected with the subject matter of the agency, is constructive notice to the principal, when the notice comes to the agent while he is concerned for the principal and in the course of the very transaction." (Bierce vs. Red Bluff Hotel Co., 31 Cal., 165). But notice to an agent of facts not arising from or connected with the subject matter of his agency is not notice to the principal, unless actually communicated to him.

Agencies are general or special, and an agent has such authority as the principal, actually or ostensibly, confers upon him. (Civil Code, Sec. 2,315). In this case it is not claimed that the architect had any other authority than that expressly conferred upon him by the written contract for the construction of the building. That authority was: *First*—To see that the building was constructed according to the drawings and specifications in a good, workmanlike and substantial manner, and to testify in writing to that effect. *Second*—As the work progressed and payments became due, to sign and issue certificates that the work had been done in the most substantial and faithful workmanlike manner, to his approval and full satisfaction. *Third*—To decide any dispute which might arise respecting the true construction or meaning of the drawings or specifications.

The foregoing are all the powers delegated to the architect, and as to these powers the plaintiffs were fully advised.

The defendant reserved to himself the duty of making the payments, and it was a matter that in no way concerned the architect when or to whom the payments should be made. This being so, we are unable to see how it can be said that the assignment was a fact "arising from or connected with the subject matter of the agency"; and in our opinion the instruction, requested by the defendant upon this subject, stated the law correctly and was properly given to the jury.

It was claimed by the plaintiffs at the trial that defendant had actual notice of the assignment before he paid the money, and in support of this claim one Bibb was called as a witness, and testified that he was the agent of plaintiffs, and that on the 25th of April he went to the defendant's saloon and exhibited and read to him the written assignment. On the other hand, it was claimed by defendant that no notice of the assignment was given or attempted to be given to him until the first day of May; and in support of this claim defendant was called as a witness, and testified that at the time he paid the money to Harding, neither Bibb nor any one else had informed him that the payments had been assigned, and that Bibb did not call upon him and exhibit the written assignment until the first day of May; that when Bibb called he exhibited a paper and asked witness to sign it, and he declined to do so; that he was a Frenchman and did not read or write English or understand what the paper meant, and so informed Bibb at the time; that he asked Bibb to come back when his clerk was in, and Bibb then went away.

At the conclusion of the testimony the Court, at the request of plaintiffs, instructed the jury that if the defendant had notice of the assignment to plaintiffs before or at the time he paid the $1,000 to Harding, then the verdict should be in their favor; and that a verbal notice of the assignment was all the law required. Afterwards an instruction reading as follows was given for defendant: "The defendant in this action is not liable to plaintiffs, if you find from the evidence that, at the time he paid the said sum of $1,000, involved in this action, to Valentine H. Harding, he had no notice that said Harding had assigned such payment to the plaintiffs. And notice given, in order to be effectual should be sufficient, precise and complete enough to put the defendant fully on his guard as to the fact of such assignment, and he should have understood it."

It is added for appellants that the last part of this instruction was misleading and erroneous, because it, in effect, told the jury that notice of the assignment would be ineffectual unless the defendant *understood* it, and it was sufficient to put him *fully* on his guard, thereby withdrawing from the jury the full consideration of the evidence upon the issues on which they were to pass. And in support of this position council cite Perkins vs. Eckert (55 Cal., 404.)

But it should be observed that each party to a lawsuit is entitled to have the law given to the jury, which is applicable to this theory of the case, and the testimony of his own witnesses. The Court acted upon this rule, and gave to the jury all of the instructions asked by the plaintiffs. The defendant's theory was that no notice of the assignment was given or attempted to be given to him until after he paid the money to Harding, and there being a sharp conflict of the evidence upon this question, that if notice was given it was ineffectual, because he did not understand it or know what it meant. Now, whether notice was given or not, and if given, whether defendant understood it, and it was sufficient to put him on his guard, or in the language of the code, to put a prudent man upon inquiry (Civil Code, Sec. 19), were questions of fact for the jury, and the instruction was evidently given to meet the defendant's theory of the case. Possibly the part of the instruction complained of might have been more happily written; but the question is, was it applicable to the facts proved by defendant, and did it state correct propositions of law.

Suppose a similar notice should be given to one who neither reads, writes, speaks nor understands the English language, would the notice be effectual and an instruction like that given here be erroneous? Evidently not. And yet we fail to see how the fact that defendant understood and spoke the English language to a limited extent can make any difference. If he did not understand what was read or said to him by the plaintiff's agent, and so informed the agent at the time, then the latter should have left with him a copy of the assignment, or should have returned for further explanation when the defendant's clerk was in. The case of Perkins vs. Eckert, *supra*, is not in point. In that case the question was whether a bill of sale was an absolute one, or was given as security, and an instruction was given which, in effect, told the jury that if plaintiffs understood it to be taken as security, and the defendants did not so understand it, they must find it to be an absolute sale. The instruction was held by this Court to be erroneous because it "withdrew from the jury the full consideration of the evidence upon the issue on which they were to pass."

In our opinion, under all the circumstances shown, the instruction stated the law correctly and was properly given to the jury.

When C. S. Holmes, one of the plaintiffs, was upon the witness-stand, counsel for defendant asked him, "What was the object and purpose of this assignment to you?" The question was objected to on the ground that it was immaterial and irrelevant, and that the terms of a written instrument could not be varied by parol testimony. Counsel for defendant replied that they did not wish to vary the terms of the instrument, but to show all the facts and circumstances surrounding the transaction. The Court then overruled the objection, and the witness answered that the contractor was a stranger to him and that he had procured bondsmen for him and did not want the money to go into his hands; that the assignment was made to secure his firm as against the bond and everything pertaining to the construction of the building. And he added that his firm advanced to Harding $165, before he received payment of the $1000, and that Harding repaid the money on the 2d of May. We see no error in the ruling. A contract may be explained by reference to the circumstances under which it was made (Civil Code, Sec. 1,647), and the testimony had some tendency to show that plaintiffs had such confidence in Harding that they may not have attempted to give notice of the assignment to defendant until the time named by him.

There is nothing in the next point made that the Court erred in permitting defendant's counsel to show that Harding borrowed money from the plaintiffs and repaid it. Holmes testified to the borrowing and repayment of the money without being asked to do so, and without objection from either side.

If it was error to admit in evidence the letter written by Holmes to Harding on the 16th of May, 1882, in reference to the disposition of all moneys which might come into plaintiff's hands under the assignment, the error was cured by instruction No. 3, which was given to the jury at the request of the plaintiffs.

The last point made by appellants is that the Court erred in allowing counsel for defendant to read in evidence the deposition of Valentine H. Harding, because there was no sufficient showing that he was out of the jurisdiction of the Court. The showing that Harding was out of the State probably might have been made somewhat fuller and more conclusive, but we think it sufficient to admit his deposition.

After carefully going over the whole record we find nothing calling for a reversal of the judgment, and therefore advise that the judgment and order denying a new trial be affirmed.

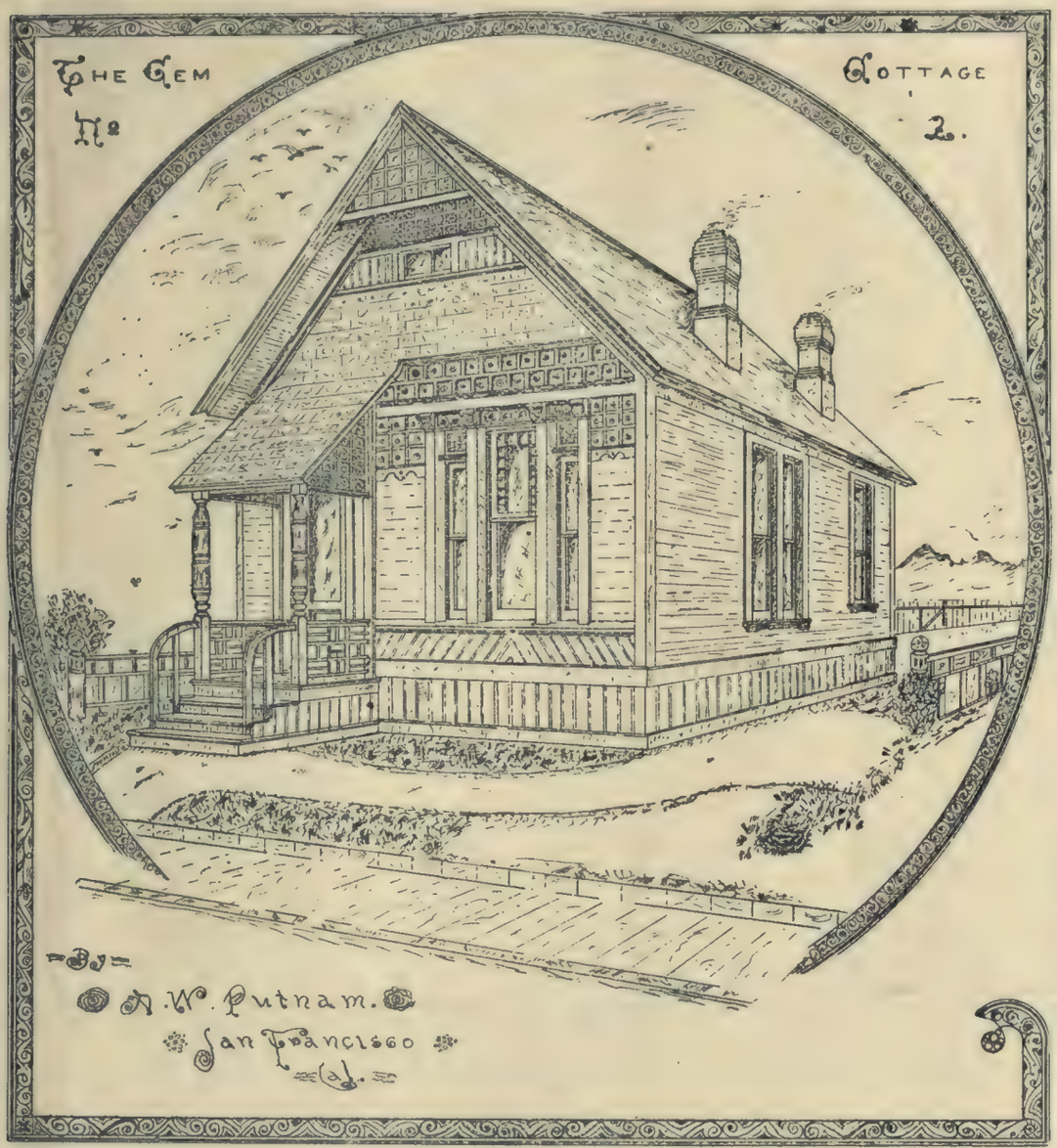
BELCHER, C. C.

We concur:

FOOTE, C.,
HAYNE, C.

BY THE COURT.

For the reasons given in the foregoing opinion the judgment and order denying a new trial are affirmed.



THE second design in the series of "Gem Cottages," which the accompanying cut illustrates, is, although somewhat larger, similar in appearance to that of number one. The general proportions are retained that it may conform to the same conditions and also in the line of economy; as a departure from the square or oblong to that of an irregular outline necessitates the forming of hips and valleys, hence a p oportionate increase in cost. Cottage No. 2 has all the requisites necessary to a complete moderate-priced home, including bath-room, grate in parlor, etc.

The principal entrance is into a hall of liberal size, from which access can be had into four of the six rooms comprising the main compartments and supplied with an abundance of light and ventilation by a large transom over the door, whose upper panel will be glazed with some neat pattern of figured frosted glass.

The parlor has ample room proportionate to a dwelling of this character and provided with ample light through the triplet windows, the smaller ones being designed with a transom over to be glazed in ornamented glass. The mantel may be of slate in imitation of marble, or if extreme economy be studied some tasteful pattern in cast iron could be substituted.

The bath-room, although somewhat unusually located, need be in no way objectional in that regard if the plumbing is of good quality and the room rightly kept, and both should have proper attention in those matters under all circumstances. This room should be wainscotted five feet high, finishing with a neat cap.

The chambers are both well provided with light and ventilation, each having a closet making them desirable rooms.

The dining-room is of liberal size with ample light furnished by the mullion window and can be, if so desired, provided with a china closet by substituting the cupboard in kitchen, where shown with doors opening on a counter shelf in dining-room three feet from floor, under which drawers for linen can be arranged. The kitchen is a desirable room with door at rear leading to back yard. The sink will rest on turned legs, leaving the space beneath open, which will allow the same to be kept clean and wholesome, rather than being cased up as usual, affording a receptacle for filth as is too often the case.

The pantry should be provided with not less than five rows of shelves, under which can be arranged flour chests, cupboards for kitchen utensils, etc. In the matter of construction the building should rest on brick piers extending into the ground below frost. The floors should be doubled, the first being of surfaced material over which lay one of matched soft pine, blind nailed, excepting in kitchen which should be of thoroughly seasoned Oregon pine, dressed smooth after laying and kept well oiled.

In a cold climate to assure warmth, would suggest a layer of asbestos paper between the floors; however, in no case the common building paper, as the leaking of water through the cracks produces a continuous damp floor and soon mould and rot away.

The kitchen should be wainscotted three feet high and over sink five feet to protect the plaster. The brick work for kitchen chimney should start thirty inches below ceiling line, resting on a solid bearing furnished by the uprights forming the side of cupboard. The brick work for mantel should start at a point below frost, resting on a footing of ample size, as suggested by the nature of the soil, and terminate four feet above floor line, the brest being formed by furring with studding to ceiling, care being taken to allow a space of at least two inches between the wood work and brick to guard against the possibility of fire. The interior should be finished in some of the modern styles of pilaster finish with a neat pattern of corner and plinth blocks. Transoms should be provided over all chamber, hall and outside doors to insure good ventilation, excepting however, the small sliding door into the bath room. Willler's sliding blinds are a good substitute for the common inside blind and much to be preferred; however, the English Venetian blind in the writer's opinion is still better.

The exterior, including roof, should be painted with at least two coats best lead and oil in two colors using only first-class material, as it is by far the cheapest. In reference to the interior would recommend a natural wood finish in hard oil, as it is the most durable, easily cleaned and no more expensive than a good job of painting. The cottage can be completed in a modern manner, using only the best materials and workmanship, at present prices in San Francisco, for a sum not to exceed $1800.

A. W. PUTNAM.

Draughtsmen and Students

Should bear in mind that we will soon issue an edition solely in their interests. Inform us at once if it is your intention to contribute either an article or a sketch.

Inadequency of Architects Compensation.

THE inadequency of the compensation received by architects for making plans, specifications, etc., for dwelling houses, and supervising the work, furnishes a fruitful theme for consideration. People do not, as a general thing, appreciate the amount of labor required in the preparation and completion of a set of plans, specifications, details, etc., for an ordinary dwelling house. The reason of this is found in the fact that most people have little or no means of knowing the inside history of the preliminary work which has to be done and the time which has to be spent before the real work of preparing plans can be fairly begun. Even those who build are usually so absorbed in the interest and pleasure of building that they do not stop to consider how much they are receiving for the small sum usually charged for the architect's services.

Perhaps, therefore, a simple outline sketch, showing the manner in which a dwelling house, costing anywhere from five to ten thousand dollars, is generally evolved, from the first step to its completion and acceptance by the owner, may assist the layman to understand what it actually cost the architect in time and labor to prepare and supervise such a set of plans, specifications, etc.

This picture will be drawn from the architect,s point of view, and will therefore present a side little known to the public.

The client enters the office of the architect, full to overflowing of that all-absorbing topic—housebuilding, and, after the brief civilities of the day are over, informs him that he contemplates building a house for himself and family, and would like to talk about plans. He then usually produces a diagram showing the number and approximate arrangement of the rooms he would like, and proceeds to inform the architect what he wants, what he don't want, and how he wants it done. As soon as the client pauses for a moment, to catch his breath, the architect asks the question which has been trembling on his lips for the last half hour—"how much money are you willing to put into your house?" Almost invariably the client's reply to this simple question demonstrates the fact that what he wants and what he is willing to pay for do not agree, and the architect's first duty is to convince him of the fact. After an hour or two the interview terminates with a promise by the architect to make preliminary sketches and to guarantee satisfaction to the client. This latter promise is not always easily fulfilled, for sometimes a client proves difficult to please, but usually he is reasonable, and the architect succeeds, in time, in designing something which suits his client exactly. But he has merely found out what he really wants, and must now proceed to embody the same in the plans and specifications. Much time has already been spent in this preliminary work; perhaps half a dozen different sketches have been made, the client has visited the architect ten or a dozen times, sometimes bringing his wife and several other members of his family, and occasionally monopolizing a whole morning of the architect's valuable time, while important letters lay piled upon his desk requiring his personal attention, and requesting an immediate response, and several builders and contractors waited impatiently in another room for an interview regarding work already under contract or about to be let. By the time the house is completed some forty or more detail drawings may have been made, besides fifteen or twenty scale drawings and about forty visits made to the premises to see that the work was being executed according to the plans and specifications.

But this is not all; every office should have duplicate drawings for the purpose of reference. The plumber and the furnace man must have duplicates of such portions of the plans as relate to their respective departments, and if the work is let out in several separate contracts each contractor requires a duplicate for his own personal information. The architect is the first one to do any work on the house and the last one with whom the owner settles. The house may be six months or a year in building. In the meantime there are running expenses of the office to be paid, such as rent, draughtsmen's salaries, drawing materials, etc., to say nothing of incidentals.

Thus it will be seen that taking a five-thousand dollar dwelling house at the schedule price of five per cent., the architect is very inadequately paid for his services. In fact no architect can pay expenses on dwelling house work alone even at five per cent., but when he is compelled to take such work at three per cent., as many are, he finds to his sorrow that it is a losing business. But as the grocer keeps sugar to accommodate his customers, even though he sometimes loses money on it, so the architect must do dwelling house work, even though he does it at a loss, depending on the heavy jobs he may chance to get to help balance his exchequer.—*Architectural Era.*

The foregoing remarks from the *Architectural Era* represent fairly the circumstances under which architects prepare plan, and the manner in which they are remunerated. Many architects in this city do not receive the *true value* of their servicess owing to the limit of professional charges being placed at five per cent. Take, for instance, the case of an owner who is erecting a fine dwelling with all modern conveniences, at the extreme westerly limit of the Pacific Hights. The cost thereof may be in the neighborhood of $8000. The architect's commission is $400. Compare the work outlined in the article above with the amount noted. Add the forty or more trips to the locality mentioned, and what profit does the architect have for his time and talents. The hints given should be carefully noted by owners, and they should take pride in seeing that those who studied long and earnestly to make plans for a comfortable home, should be remunerated in a manner befitting their professional calling.

Pay Day and Welcome.

Subscribers to this Journal should bear in mind that the annual pay time of a large number of subscriptions has rolled around, and is now due and payable. All are earnestly requested to call at once and settle arrearages, and renew for 1889, and thus express such

A HEARTY WELCOME

To the new management as will assure it of undivided support from the members of the architectural profession, and every contractor, builder, material man, and of all classes and callings, engaged in works connected with building construction. Owners of property, those engaged in house furnishing, furniture, carpets or in any way identified or interested in housework should give both advertising and subscription support, as more than ever, this journal will become the great channel through which all important reliable business information and facts will flow.

Under a New Management.

This journal is now under the control of the "Architect Publishing Company." All accounts due are payable to the company, at their new offices, 408 California street, rooms 14, 15, 16 and 17.

All who intend to build a home for themselves should fully realize the importance of first knowing just what can be done with a given amount of money, in the building, furnishing and beautifying their buildings and grounds, so that when the whole is finished, they can truly say it is simply complete.

It has been found that steel mixed with twenty-four per cent of manganese becomes non-magnetic.

"Soaking" in the fire causes steel to become "dry" and brittle, and does it very great injury.

CHEAP LUMBER AND BUILDING.

WE took occasion, in a late issue, to allude to the rivalry that is being waged between our manufacturers of lumber and the damaging effect it is having on that interest, deprecating the same as tending to a useless waste of our own timber resources, besides being otherwise lacking in business sense. From the consequent cheapness of lumber there is resulting, however, some benefits to the community at large, albeit at the expense of the lumbermen themselves. The cheapness of this article has greatly stimulated building and other improvements involving a large use of lumber.

There is said to be in this city a greater number of dwelling-houses in course of erection at this time than ever before, the same being true of many other towns in the State, both interior and coastwise, except, perhaps, in the southern tier of counties, where the building "boom" has somewhat abated.

Aside from the houses being built, an unusually large number of contracts have been entered into for the erection of others to be put up during the coming spring and summer. Many business places, some of them large and costly structures, are also being built both here and elsewhere, their erection being prompted, in part at least, by the same consideration. Cheap lumber is not therefore, one of those ill winds that blows nobody any good.

It may in the end even work to the advantage of the lumbermen themselves, the impetus so given to building creating such a demand for their product as will, through the depletion of stocks, force up the price of that commodity.

It is surprising the effect that a drop of a few dollars per thousand in the cost of lumber has on the owners of real estate, causing them everywhere to be seized with a desire for improving their property. The cost of labor and other materials may remain as high as ever, and even be advanced, yet this is all lost sight of in view of the lessened cost of this one article.

While the lumber question is one of moment with all real estate owners, it undoubtedly weighs most with small holders, the owners of only two or three lots, or perhaps merely a homestead, on which they make haste to build when the cost of this one item drops a little below the ordinary standard. That this view of the situation is correct is obvious from the improvements going on in the outskirts of the city of San Francisco. Visiting that quarter of the city we see hundreds of small houses being built, the most of them evidently intended for occupancy by the owners. But beside this class of tenements, which are apt to be widely scattered, there are others put up in long rows designed for rent, the possessions of larger real estate proprietors.

One going into the Western Addition, and seeing there so many houses being built, gets the impression that this suburb is forging ahead at a specially rapid rate. If he visit the southern part of the town, he is in like manner led away with the idea that this section is meeting with an abnormal growth. Out along the old Mission and the old San Bruno roads building enterprise is undergoing a wonderful expansion, as well as along both sides of the Potrero, lying off in that direction. Even up the sides and over the tops of the high hills occupying the southwestern part of the city, improvements are creeping, showing that these less desirable localities are already in request, with the prospect of becoming densely populated in the near future.

By reason of this large consumption of lumber, it is to be hoped that the manufacturers of that article will, through improved prices, find some compensation for the meagre returns they are now realizing from the products of their business.

The above from *Wood and Iron*, of this city, expresses the true state of the lumber market. We take pleasure in printing the article, as it coincides with many of the ideas advanced by the CALIFORNIA ARCHITECT. *"It is surprising the effect that a drop of a few dollars per thousand in the cost of lumber has upon the owners of real estate."* Friend Everett, we cordially agree with you and beg to welcome you to our fold. Time over and again have we advanced that same proposition, and the same number of times have we been combatted, Friend Everett, taking the stand that a few dollars per thousand, more or less, did not or would not affect the price of building. It is not only the price of the rough lumber used, but the mill men make a vast difference on their bids, owing to the high value of surfaced lumber. This journal has always taken the stand that $22.50 was too high for lumber, while $12 or $13 per M, was a ruinously low figure. We believe that $18 is a fair price to consumers and manufacturers, and an earnest endeavor should be made to maintain the price of lumber at that figure.

FULL OF PROMISE.

The years since 1880 have been periods of gratifying and increasing prosperities in California, in all departments of building, commercial and business enterprises, checked only for a limited time by an occasional "dry season;"—some portions of the State "booming" to the utmost extent of possibilities, stimulated by every art and device known to those handling and manipulating property interests, while San Francisco and other cities, towns and sections have glided along in the even tenor of their ways, stimulated, growing and prospering alone upon the solid merits of the realities within their respective boundaries.

Such has been the state of facts particularly in the building interests. The building statistics from time to time appearing in this journal show the approximate, but not the ultimate, amount of investments, as often as the sum of contracts decided upon the commencement of operations, and upon which such statistics are based, are considerably increased before completion, by extras which in some cases amount to a considerable percentage on the sum of original contracts.

But viewing prospective results for current year from present datas the generally expressed prediction is that 1889 will be one of the exceptionally good years in this State. Everybody who can control their finances to that end, expresses the determination to build, and ere the summer months roll around, every building operative from architect to sewer-layer will have ample employment, with the very certain probability that the supply of labor in many of the departments, especially skilled mechanics, will be short of the demand. Hence, advance in the rates of wages in some lines may reasonably be anticipated, and those who commence later in the season may expect to pay higher prices than those who at the present time have their plans prepared and in the market for bids. Notwithstanding the large number of tenement houses erected each succeeding year, there are few desirable habitations to rent, and as fast as new ones are completed tenants are found to occupy them, thus evidencing the fact that those who have property to improve, and money to invest, run no risk in planting their surplus or available coin in building improvements, particularly at the present low price of lumber materials.

PLATE GLASS MAKING.—This is now an extensive industry in this country. The principal works are at New Albany, Indiana, where 1,500,000 square feet is made annually. Nearly as much is made at St. Louis, Mo., and a works at Pittsburg, Pa., turns out 360,000 square feet each year. The total is 3,000,000 square feet, or 568 acres of plate glass ground true and polished. No enormous plates, such as were exhibited at the Centennial exposition by French makers have been produced and are not required. Plate glass of unusual dimensions is a luxury, and posses no merit or advantage corresponding to its great cost. The value increases as the square of the area.

The manufacturers of perforated seats have combined. Their object can be seen through.

Parker Ave., near Point Lobos avenue, one-stoty frame. Owner, Geo. Wright, architect, D. F. McGraw; contractor, D. F. McGraw; amount, $1,500; limit April 1; filed, January 19; signed, January 7. Payments, $500 when brown mortared; $500 when outside work done; $500 completed.

Pine, between Lyon and Central avenue, dwelling and stable. Owner, Fred'k Rakeman; architect, Townsend & Wyneken; contractor, Wm. Linden; amount, $2,800; limit, 120 days; filed, Jan. 15; signed, Jan. 9. Payments, $560, framed; $560, enclosed; $560, 1st coat paint; $560, completed; $560, 35 days.

Page, between Gough and Octavia, building. Owner, James Reily; sureties, W. A. Meeker; architects, Jno. J. Clarke; contractor, W. Linden; amount, $5,300; limit, 120 days; filed, Jan. 22; signed, Jan. 10. Payments, $1,000, framed; $1,000, enclosed; $1,000, brown coated; $1,000, inside finish complete; $1,300, 35 days after.

Page and Scott, three-story frame. Owner, Jos. Hess; architect, H. Geilfuss; contractor, H. J. Weiss; amount, $7,168; filed, Jan. 7; signed, Jan. 2. Payments, $900, framed; $900, roofed; $900 partitions set; $900, brown coated; $900, white coated; $868, completed; $1,800, 35 days.

Pacific, near Larkin, improvements, $1,000.

Sutter, near Powell, brick and stone works. Owner, Wm. T. Commary; architect, Robt. H. Daley; contractor, Geo. D. Nagle; amount, $2,700; limit, 30 days; filed, Jan. 15; signed, Dec. 8. Payments, 75 per cent as work progresses; balance, 25 per cent, 35 days.

Scott and Post, frame building. Owner and architect, T. J. Welsh; sureties, Frank P. Latson and J. J. McKinnon, $4,000; contractors, Brennan Bros.; amount, $4,540; limit, 90 days; filed, Jan. 25; signed, Jan. 19. Payments, brick and carpenter work for frame building; $1,000, framed; $1,000, brown mortar on; $1,000, accepted; $1,540, 35 days after.

Stockton, between Ellis and O'Farrell, five-story and attic brick building. Owners, E. D. Keyes, Marianna C. Loughsborough and F. George; architect, Chas. Geddes; carpenter, A. Miller, $47,700; mason, J. McCarthy, $36,232; iron, O'Connell & Lewis, $9,500; plumbing, Shephard Bros., $7,696; Gal. iron, Conlin & Roberts, $9,580; glass, Whittier & Fuller, $3,575; painting, Downing, $3,000; wrought iron, Ralston, $7,388; stone, R. A. Lewis, $1,548,

Sutter, near Webster, additions; cost, $600.

Sacramento, near Larkin, two-story frame. Owner and builder, R. Grier; cost, $4,500.

Twenty-third and Dolores, painting. Owner, N. J. Stone; architects, Percy & Hamilton; contractor, F. S. Poland; amount, $1,260; limit, as soon as possible; filed, Jan. 31; signed, Jan. 22. Payments, installments of 75 per cent, on first Saturday of each month, as work progresses; balance, 25 per cent, after completion.

Turk, between Laguna and Buchanan, three-story frame. Owner, Wilhemina Hess; architect, Bernard Dryer; contractor, Bernard Dryer; amount, $5,690; limit, May 10; filed, Feb. 2; signed, Feb. 1. Payments, $1,500, framed; $1,200, brown coated; $1,500, white coated; $1,490, 35 days.

Twenty-third and Alabama, two-story frame and moving stable. Owner, Jos. M. Schulz; architect, H. Geilfuss; contractors, Gray & Stover; amount, $3,625; filed, Feb. 2; signed, Jan. 30. Payments, $905, framed; $905, white coated; $905, completed; $910, 35 days.

Treat Av., between Twenty-fifth and Twenty-sixth, two-story and basement building. Owner, Wm. Ferris; architect, Geo. Houston; contractor, Geo. Houston; amount, $2,690; limit, 90 days; filed, January 19; signed, January 11. Payments, $500 rustic on; $500 brown coated; $500 white coated; $500 completed. $690 35 days.

Twenty-third and Dolores, carpenter work. Owner, N. J. Stone; architects, Percy & Hamilton; contractor, F. W. Kern; amount, $13,490; limit, 90 days; filed, Jan. 24; signed Jan. 22. Payments, carpenter work in installments, on first Saturday each month, of 75 per cent as work progresses; balance, 25 per cent 35 days after completion.

Twenty-third and Dolores, plastering and deafening. Owner, N. J. Stone; architects, Percy & Hamilton; contractor, J. L. Crichton; amount, $1,697; limit, when building is ready; filed, Jan. 24; signed, Jan. 22. Payment in installments, on first Saturday of each month, of 75 per cent, as work progresses; balance, 25 per cent, 35 days after completion.

Twenty-third and Dolores, brick and artificial stone work. Owner, J. N. Stone; architects, Percy & Hamilton; contractor, J. Wagner; amount, $2,545; limit, 25 days; filed, Jan. 24; signed, Jan. 22. Payments in installments on first Saturday each month, 75 per cent as work progresses; balance, 25 per cent, 35 days after completion.

Twenty-third and Dolores, plumbing and sewerage. Owner, N. J. Stone; architects, Percy & Hamilton; contractors, Shepard Bros.; amount, $2,128; filed, Jan. 24; signed, Jan. 22. Payments, installments on 1st Saturday of each month, of 75 per cent as work progresses; balance, 25 per cent 35 days after completion.

Twenty-fourth and Dolores, two-story frame. Owner Geo. I. Mouck; architect and contractor, Geo. Houston; amount, $2,818; limit, 100 days; filed Jan. 14; signed, Dec. 31. Payments, $703, shingled; $705, brown mortared; $705, doors and windows in; $705, 35 days.

Twenty-second, between Fair Oaks and Guerrero, double frame building. Owner, James C. Blair, et al; architect, Henry T. Bestor; contractor, R. Doyle & Son; amount, $2,889; sureties, C. H. Castle and John McCarty, $1,500; limit, 70 days; filed, Jan. 15; signed, Jan. 14. Payments, $450, rustic on; $600, brown mortared; $600, white mortared; $514, completed; $725, 35 days.

Union, between Filmore and Steiner, two-story frame. Owner, Mr. Harper; contractor, R. Brotherton; cost, $3,000.

Union, near Buchanan, one-story addition; cost, $1,200.

Union and Fillmore, two-story frame. Owner, A. Postel; architect, B. E. Henrickson; contractor, Robt. Currie; amount $3,420; sureties, Frank P. Latson and John J. Cooney, $3,400; limit, 65 days; filed, Jan. 25; signed, Jan. 19. Payments, $640, roofed; $640 outside finish on; $640, sashes glazed and hung; $640, trimmings on; $860, 35 days after.

Valencia, near 25th, one-story frame; cost, $800.

Vernon Place and Third, two-story frame. Owner, John Demartini; architect, Geo. E. Voelkel; contractors, C. F. Robertson and Fritz Roettger; amount, $2,254; sureties, J. W. Wesson; limit, 60 days; filed, January 12; signed, January 5. Payments, $300 enclosed; $500 first plastered; $800 completed; $564 35 days.

NEW CITY HALL CONTRACT.

The bids for constructing the plinth course of the McAllister street wings for the construction of an elevator in the Larkin-street wing, and finishing five rooms in the main building are as follows:

PLINTH COURSE.	Small Wing.	Large Wing.
M. J. Healey & Co	8?,939	$8,411
McGowan & Butler	8,800	9,100
Antonelli & Doe	7,035	7,380
F. E. Knowles & Co	11 750	11,750

FINISHING ROOMS.	
J. Kemp & Co	$9,950
F. A. Williams	5,995
McCann & Riddl	5,690
McGowan & Butler	7,710
Antonelli & Doe	6,500

CONSTRUCTION OF ELEVATOR.	
A. J. McNicoll	$4,500
W. T. Garratt & Co	5,049
W. H. Birch & Co	4,830
W. H. Birch & Co	4,695
W. H. Birch & Co	5,550
W. H. Birch & Co	3,975

All the bidders will be required to produce samples of the stone to be used in construction.

COUNTRY BUILDING NEWS.

THE LOS ANGELES BUILDING.

Bids Opened by the Supervising Architect at Washington.

WASHINGTON, Feb. 5.—Bids for the construction of the new public building at Los Angeles were opened at the office of the Supervising Architect to-day. Bids from Los Angeles were received as follows: John Hanlon, $150,000; Fletcher & Smith, $163,566; F. E. Green, $181,360; McNally & McCormack, $199,700. From Washington, D. C.—Holtzelaw Bros., $126,365; McCarty & Baldwin, $132,000; Lane & Malone, $141,956; Bright & Humphrey, $148,637; James H. Coster, of Baltimore, $130,8?7; J. L. Garing & Son, of Detroit, $134,000.

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534 and 536 MARKET STREET.
Telephone 3192.

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319-329 GUERRERO STREET.
Telephone 6113.

SAN FRANCISCO, CAL.

AN INSOLVENT CARPENTER.

John Furness, a carpenter and builder, who has been engaged in business in this city since 1873, has applied to the Superior Court to be adjudged an insolvent debtor. His liabilities amount to $5,908 due on promissory notes and open book accounts. His assets consist of tools of trade, wearing apparel and furniture, valued at $235, which are exempt from execution under the law.

NEW PUBLIC BUILDING AT STOCKTON.

The Supervisors lately adopted a resolution to build a County Jail, and appointed a committee to advertise for plans. There is a fund of $50,000, available for the purpose, and the site was purchased two years ago. The Courthouse now being constructed at a cost of $250,000, will be finished this year. The granite for the third story is now being set. The jail will be one block distant from the Courthouse.

ESPERANZA.

Architect W. H. Carson, of Woodland, is preparing plans for a brick hotel, to be erected in Esperanza.

LIVERMORE.

N. D. Dutcher will erect a frame building.

SANTA ROSA.

G A. Tupper will build a three-story brick hotel on Fourth street, for hotel purposes. Work will be commenced in a few months.

The Clute building will be greatly enlarged.

The Lodge block will undergo material alterations.

SAN PEDRO'S NEW SCHOOLHOUSE.

The citizens at San Pedro have raised $12,000 for the purpose of erecting an eight-room schoolhouse. Seventeen architects sent in plans, some from San Diego and Pasadena, but the successful competitor was George F. Costerisan, of Los Angeles. The building will be commenced very soon.

ALAMEDA IMPROVEMENTS.

The building trade starts out well for the first month of the year, and the outlook for an active season was never more encouraging. Houses are now going up in all parts of the city, and if only half of the number projected are built this year, the record will be a large one. Plans have been prepared for some magnificent dwellings, to be erected in the neighborhood of Peru and Sherman streets, and San Antonio avenue.

Alexander Johnson has built many houses in Alameda. He has a large cottage in course of construction on the south side of Buena Vista avenue, west of Willow street. It is one story in hight and will contain nine rooms altogether. Cost, about $2,000. It is Mr. Johnson's intention to build two smaller cottages on the adjoining lots to the west. He is also finishing two cottages on Blanding avenue, between Broadway and Everett street.

John Conrad is building a handsome seven-room cottage on the north side of Pacific avenue, east of Chestnut street. It will cost about $2,000.

William Hammond is having a number of alterations made on his cottage on the south side of Buena Vista avenue, west of Willow street. The improvements will cost about $1,500.

Thomas I. Pyne has commenced work upon a large cottage on the north side of San Jose avenue, between Oak and Walnut streets. This will be the eighth dwelling that Mr. Pyne has erected in Alameda.

PLEASANTON.

The contract for the Pleasanton school building was not let last Saturday, as all of the five bids were in excess of the $10,000 limit made by the trustees. The lowest bid was about $13,300, and the highest about $15,000. All were made by Oakland and San Francisco contractors. All were rejected, and the architect instructed to so change the plans as to bring the cost of the completed building within the limit. This done, new bids will be asked for.

OAKLAND.

Mr. Finn is having a dwelling built on Eleventh street, near Powell.

RIVERSIDE.

A parsonage is being erected for the use of the Christian Church society.

Bakewell & Sons are erecting a business building in Casa Blanca.

H. A. Westbrook secured the contract for alterations to the Boyd building. C. I. Rice obtained the Postoffice building. Architect Willard has charge in both cases.

FORESTVILLE

Virgil Moore has let the contract to Mr. Cole for a $20,000 hotel. Work will be commenced in the early spring.

ONTARIO.

N. G. Knott has signed a contract to erect a dwelling for Dr. Scott.

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Wood Mantels,
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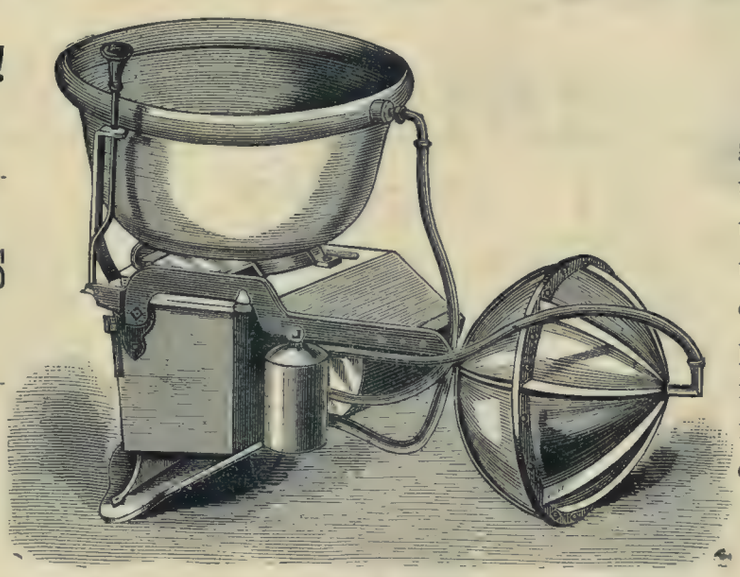

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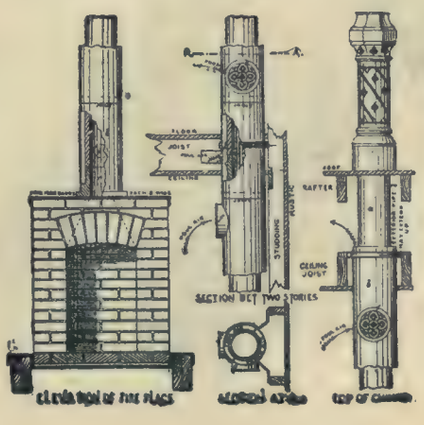

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At the back of exterior pipe is a three-inch conductor D extending to outside of wall for fresh air, which, passing up becomes heated, and can be introduced to any room above by a register E, near the floor. The ventilation of rooms is effected by means of an opening F, with register near the ceiling, by which the foul air escapes and is conducted in the air space around the flue to the roof. In addition to this, can be a perforated center piece, letting the foul air pass through and between the joists to conduct by a small conductor G with the above mentioned air space.

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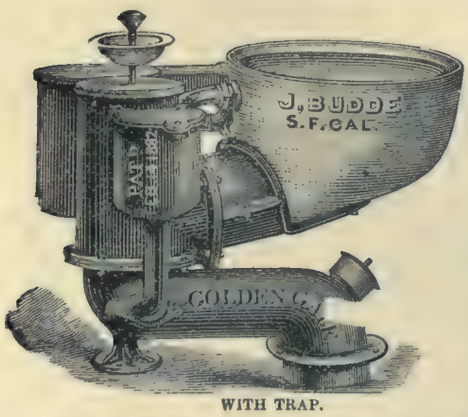

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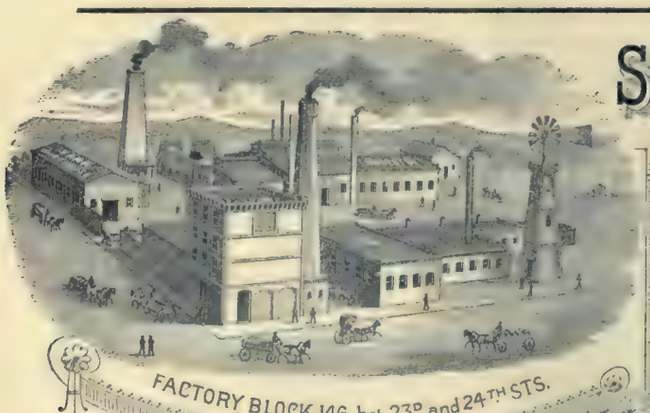

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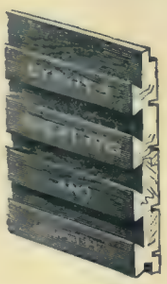

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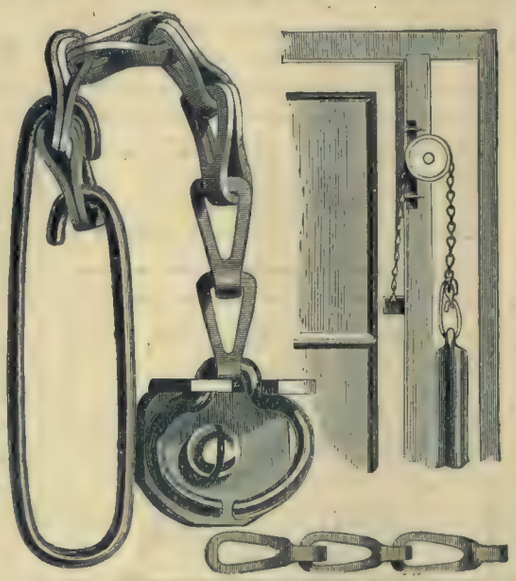

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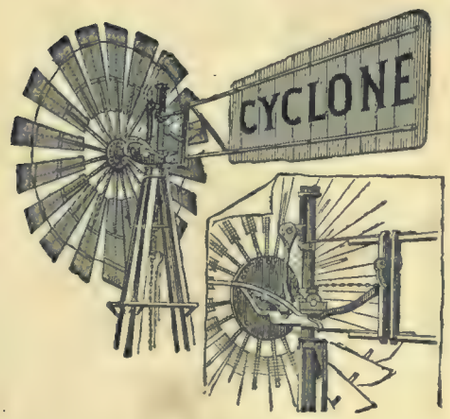

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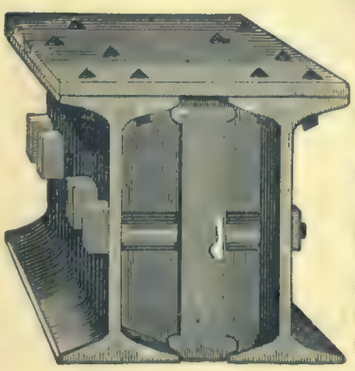

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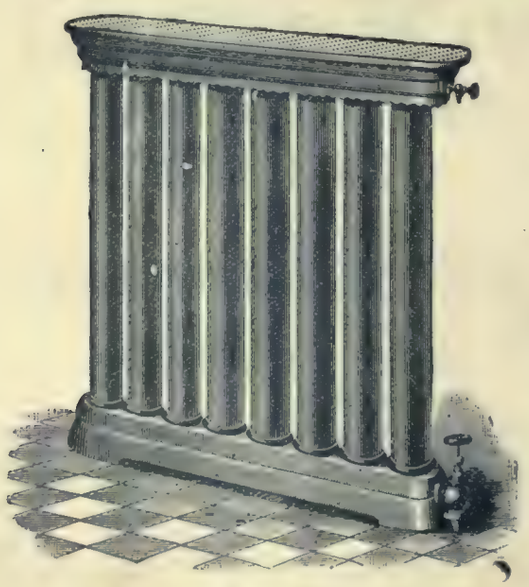

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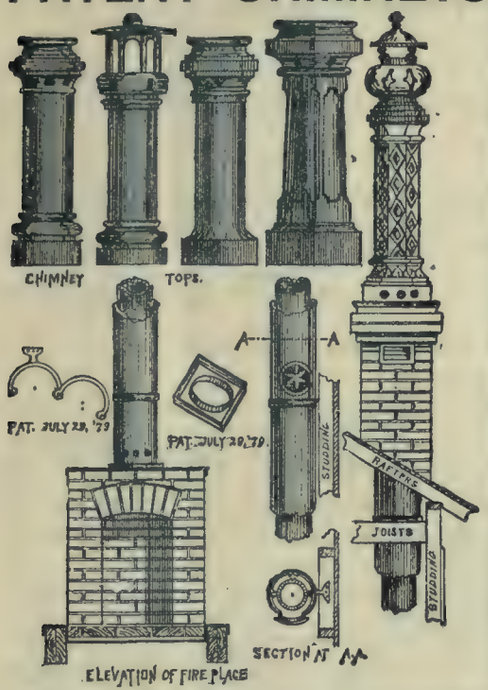

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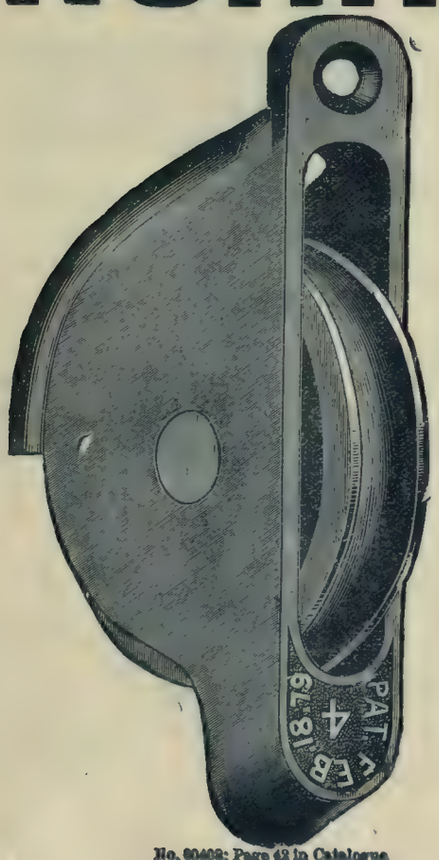

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SAN FRANCISCO, SEPTEMBER 15, 1889.

Mr. George H. Wolfe, having no further connection with this journal, correspondents will in future please address their communications to the *California Architect and Building News*, 408 California street, San Francisco, Cal.

IN the January number of this journal the announcement was made that a change in ownership had been made and that henceforth it would be managed by a company. This arrangement was satisfactory to some for the following reasons, as stated at the time.

"The publication of a journal devoted to the interests of architects and builders on the Pacific Coast is an important measure and is too self-evident to require the support of argument.

So far, in the history of California, the necessity for such a journal has been met only in the publication of the California Architect and Building News.

That journal, however, has hitherto been an individual enterprise, edited and managed by one still practicing the profession of architect, and therefore has not received that undivided and united support that would flow to a journal entirely free from all personal and professional entanglements."

Since January the journal has been under the management of an individual and has not dropped its personal character as was expected, neither has it assumed the tone which was hoped by many that it would take. It has been more of an advertising sheet than a medium of thought or intelligence.

With this number the architects themselves take control and will strive to make it a worthy organ of a great profession, to which all of the members, whether in this city, in Oregon, or elsewhere on the Pacific Coast, are invited to contribute any item on any subject relating to architecture or building.

Of this number we shall not say more than to ask your indulgence for any imperfections that may appear.

The regular monthly meeeting of the San Francisco Chapter A. I. A. was held on Friday evening, September 6th In the neighborhood of a dozen members were present. Messrs. Franklin Williams and D. L. Williams of Portland were elected fellow members. The amendment to the by-laws, changing the evening for the regular meeting from the first to the second Friday in the month, was carried. The election of officers was postponed for two weeks, to which time the meeting adjourned in the hopes of having a more numerous attendance.

THE trustees of the Lick fund advertised about two years ago for competitive designs for the statuary provided for in Mr. Lick's bequests, to be erected in this city, to commemorate the early epochs in the history of the State. The proposed monument was to be well worth $100,000, and the premiums offered by the trustees were the execution of the work to the first competitor, $500 to the second, and $300 to the third.

Some twenty-five designs were submitted, but after many months delay the trustees have finally decided that none of the projects were appropriate for the purpose, and have now instituted a second competition, selecting the names of four firms and individuals, who are to submit designs and models of the same, for which the trustees agree to pay each competitor the sum of $750.

We are glad to see that the Lick trustees have learned through the failure of their first competition, that to secure a design on which sufficient time and study have been bestowed to obtain a satisfactory result, it is necessary to assure the designer adequate compensation for that time and study.

It is very evident that a premium not commensurate with the importance of the project will tend to attract designs, whose artistic merit correspond rather to the amount of the premiums offered than to the importance of the proposed work, for no artist or architect of standing is desirous of risking his time, which is money, on such an uncertain proposition as the ordinary competition.

It goes without argument, however, that where designs are called for, and the results do not come up to expectations, it is not right to refuse to pay the proffered prizes to those whose trust in the faith of the management was sufficient to lead them to enter the race.

In this connection we deem it appropriate, and of interest to our readers, to publish the following schedule of terms adopted by the American Institute of Architects nearly twenty years ago, and we desire to urge the justice and equity of the principles involved upon the consideration of public and private societies, and individuals who may in the future invite our brethren to enter into honorable competition.

Schedule of terms regulating open and close competitions for architectural works, adopted by the American Institute of Architects in convention assembled, November 8th and 9th, 1870, and recommended to all architects building committees and proprietors throughout the country.

1. The instructions must not require more drawings or estimates than are necessary in order clearly to explain the design, and should require that all the designs submitted be drawn to a uniform scale, which must be clearly defined, and that all perspectives required to be drawn to the same scale as the geometrical drawings, and on a plane at the corner of the building nearest the point of sight; a deviation from which will cause their rejection.

2. In case the amount to be expended is limited, the instructions must state that an excess of ten per cent on the expense of executing any design, over and above the sum mentioned, will exclude it from competition, the amount of expense to be determined by the professional experts in the jury; and in case the amount to be expended is not fixed, then the competitor may use his own discretion as to the costliness of the design which he makes.

3. A design will be excluded from the competition, if sent in after the stated period, and if it contains deviations from the instructions. If, from any of the above reasons, all submitted designs are rejected, then the jury is bound to publish the reasons which led to its verdict.

4. The period given for preparing the design must be long enough, not only for perfecting it and preparing the necessary drawings, but must make some allowance for the ordinary occupations of competitors. An explicit statement must be given as to the time when the decision on the merits of the designs is to be rendered, and that all designs shall be returned to their authors. An architect's drawings are his own private property, unless paid for, in which case they are for the sole use and benefit of his client; but the actual drawings still belong to the architect who made them.

5. The designs should be submitted to a jury of experts, whose decision is to be final. One half of the jury should be architects, and in the case of an open competition for a public building, it should be selected by the building committee or owner. The jury must be named in the instructions which the committee shall have sanctioned before publication. No person can be competent to serve as juror who submits a design, or is in any way interested in any design submitted, or who has not renounced all intention of participating in the execution of the work.

6. All designs submitted, in open competition for public buildings, should be publicly exhibited two weeks before the decision is made.

7. In the case of open competitions the first premium must not be less than the amount which the architect would have received had there been no competition, and at least an equal amount should be divided among the other competitors, according to the merits of the designs submitted.

8. It is recommended that, in close competitions, wherein the number of competitors is limited, a sum equal to the full value of one design be divided equally among the authors of all except the premiated design, which shall be compensated for as provided in the last preceding rule.

9. The instructions must state that in case the building is erected after any of the designs submitted in competition, it must be given in charge of the author of the first premiated design, who is to be employed at the usual compensation; and if any other designs, or parts of designs, are used, it can be done only with the consent of their authors; and they must be compensated for the full value of the designs or parts of designs used, irrespective of the premiums that may have been awarded.

10. The premiums must be awarded, under all circumstances, for the designs which may have been admitted in competition.

11. It is recommended that, in the schemes of competition, it shall be provided that the names of the competitors shall not be known to the jury.

Academy of Sciences.

The engraving of the new building for the California Academy of Sciences which appears in this issue of the Architect was to have been printed with the August number, but by the carelessness of a work-man the cut was destroyed, and the view which is now inserted has been made the second time. This view represents the front of the new California Academy of Sciences Building now in course of construction on Market street, between Fourth and Fifth. It has been prepared with great care from drawings made by Messrs. Percy and Hamilton, constructing architects.

The structure to which this front belongs, will be one of the finest and most substantial in the city. It nearly covers the whole of a trapezoid, the two parallel sides of which measure respectively 275 and 195 feet; the side at right angles which fronts on Market street, being 80 feet. It will cost over $300,000 and it will be built of the best stone, brick, iron and other materials to be found in the market.

The building is divided into two different structures; one facing on Market street, covering an area of about 80x86 feet, being a commercial block; the other is devoted to the rooms of the Academy. The former is seven stories high, the Academy six. Between the two structures there is a court 80x27 feet.

The California Academy of Sciences was organized on April 4, 1853. None of the charter members are now alive. It had a very precarious existence for a great many years; and had not the late philanthropist James Lick so munificently endowed it, first with the lot on Market street, valued at over $300,000 and afterwards with one half of the residue of his valuable estate, which will nearly reach half a million dollars, it is doubtful if the Academy of Sciences could have for many years moved from the dilapidated building where it is now located, where a gradual deterioration is going on in everything combined in a building so thoroughly saturated with water as that building is, where dampness constantly sweats from its walls, where moisture constantly burdens the atmosphere and where moss and mould and mildew lurk in every crack and cranny of the building attacking and damaging every perishable thing therein contained. The occupation of the building by those whose business constantly calls them there is only rendered tolerable by constant fires in the stove all the year around.

Fortunately due to the generosity of Mr. Lick and the energy of the present Board of Trustees, in the course of the next year the quarters of the Academy will be in one of the best buildings erected for that purpose in America.

The former Board of Trustees were averse to incurring a large debt in order to improve the valuable lot owned by the Academy on Market street, but the present Board thinks it is poor policy to allow the collections to go to ruin for lack of proper rooms and deprive the members of the Academy of suitable lecture rooms, library, museum and other departments of such an institution; besides losing the handsome revenue derived from the rental of the commercial block so advantageously situated as the one owned by the society.

At the begining of last year the President of the Board of Trustees and the prudential committee reported to the Academy the intention of the Board of Trustees to improve as soon as possible the property on Market street. The Council of the Academy and the Academy in one of its meetings passed resolutions indorsing the resolution of the Board of Trustees. Satisfactory arrangements having been made by which the Lick State Trustees would advance to the Academy of Sciences all the necessary funds to erect the contemplated building, steps were taken at once to carry out the project.

In May of last year a circular was sent to many architects inviting them to present plans for an Academy of Sciences building to conform with certain specified requirements. The firms of J. M. Curtis, W. F. Smith, Percy & Hamilton, Salfield & Kohlberg and J. J. & T. D. Newsom responded to the invitation and offered plans which were opened on June 18, 1888.

It was found that all the plans, though meritorious and conscientiously executed did not answer the requirements of the Academy and it was resolved by the Board of Trustees to accept them all but adopt none.

The order in which the plans were accepted was: First, those of J. M. Curtis; second, W. F. Smith's; third, Percy & Hamilton's; fourth, Salfield & Kohlberg's; and fifth, J. J. & J. D. Newsom's.

A committee composed of Messrs. Davis and Molera of the Board of Trustees and Dr. Harkness, president of the Academy was appointed to take from the plans submitted those features best adopted to the needs of the Academy and supplement them with those they themselves might suggest. Also to recommend who among the competing architects should be appointed supervising architect.

After many consultations the Committee prepared the general plans. Mr. Davis made the plans for the Commercial building, Dr. Harkness the distribution of rooms for the Academy, and Mr. Molera the fronts of the building and the general plans. These plans were agreed to and submitted by all the members of the Committee. They differed, however, in the appointment of the supervising architect. Mr. Davis recommending Mr. Curtis while Messrs. Harkness and Molera recommended the firm of Percy and Hamilton.

The Board of Trustees adopted the recommendation of the majority and Messrs. Percy & Hamilton were appointed the architects "to prepare the necessary drawings and specifications to erect the Academy's building and take the general plans prepared by the committee on plans, composed by Messrs. Molera Davis and Harkness as the basis of their operations."

The general plans have been changed in many particulars, specially the front of the building The late Mr. Lick in his deed of the Market street property,and subsequently on the deed of trust, expressed his desire that the Academy's building should be of a classical design. In deference to that wish and according to their own ideas the committee designed the front of the Academy with classical elements. The architects have changed it for a front on the so-called Romanesque style, the reasons for the changes are that it is difficult to design buildings of more than two

or three stories high with classical lines. For an Academy of Sciences, it would have been better to adopt a classical front than one in a style the best recommendation of which being its novelty. That buildings with classical orders and several stories high can be built with handsome fronts is numerously exemplified both in Europe and in this country, and conspicuously so in the recently completed Drexel building in New York ten stories high, which is one of the grandest and and handsomest buildings in America. However, the Academy of Sciences front is a fine one and in combination with the splendid materials used in its construction, will do credit both to the Association and the architects.

E. N. SHAW, in an article published in the *Architect* (a London periodical) says the contents of a building have undoubtedly much to do with its safety or danger, but in estimating the whole risk, the materials of which the building is constructed must never be put out of consideration. Every building cannot be erected with brick column and groined arches, but there is a vast range between these and the miserable cast iron pots too commonly to be seen, many of which have been put in without having been tested for strength even at the ordinary temperature of the atmosphere, much less at that of a fire. The following illustration may be given of a fact well-known to all firemen of experience, but seldom proved by demonstration for those not specially interested.

A fire occurred in a warehouse of enormous proportions and raged with great fury for five hours, at the end of which time it was extinguished, and a very large proportion of the building and its contents saved. The warehouse was constructed of brick walls; it had wooden floors supported on wooden beams, which in their turn were carried on wooden story posts about 12 inches thick, and, although serious damage was done, not one portion of the heavy wood-work was destroyed. After the fire, the proprietors allowed the chief of the fire brigade to remove one of the story posts, with a section of the beams and other parts surrounding it above and below.

This post had been subjected to the full action of the fire during the whole of its duration, as already mentioned, or, making full allowance for everything, including the delay of the fire attacking the particular spot on which it stood, and the time at which the cooling process commenced, certainly not less than four and a half hours. As large quantities of water had been used, and it was probable that every thing had been saturated, the wood was carefully dried before a strong fire until not a trace of moisture remained in it. It was then set on end in an open yard, exactly as it had stood in the warehouse, with the pedestal underneath, the cap above, and the beam across the cap, more than a ton of shavings, light wood and heavy wood were placed around it, and after the whole heap was saturated with petroleum, a light was applied to it, and after this, large quantities of petroleum and turpentine were pumped on it. At the end of two and a half hours the post, beam and other parts were withdrawn from the fire, and within a few minutes from the time they were withdrawn they ceased to burn. A few feet were then sawn off horizontally, at that part which had suffered most from the flames, and afterward the same piece was split longitudinally with steel wedges, in order to examine its condition.

The post was of pitch pine, about the most inflammable wood known, and yet after exposure for seven hours to fire, the fury of which could not be exceeded except in blast furnaces, it contained within a quantity of perfectly uninjured and apparently fresh wood, probably capable of supporting the whole weight the original post was designed to carry. Immediately after the saw cut, and again after the cleating with steel wedges, the centre was carefully examined, and found to be just perceptibly warm to the touch, but nothing more, thus proving that the fibre, in which the strength lay, was quite uninjured.

A NEW work has been laid on our table entitled: A Manual of Machine Construction for Engineers, Draughtsmen and Mechanics, by John Richards, Esq. The summary of contents are: Machine Design, The Transmission of Power, Steam Machinery, Hydraulics, Process and Properties, Tables and Memoranda. It is well illustrated with clean cut drawings of machinery on a large scale, and contains tables and formulæ seldom found in technical works, the use of which will greatly lighten the office labor of the engineer. It is bound in strong, flexible covers and so arranged that it can be used with one hand while working with the other. Publisher's price, $5.00.

AT the recent meeting of the National Electric Light Association at Niagara Falls, considerable time was taken up by the reading of papers and the discussions of the requirements for buildings intended for this purpose. Mr. M. D. Law read a paper, giving his view of certain necessary details for a model building, which should be of brick or stone, substantial, and not more than two stories in height, and as near fire-proof as possible. The boiler room should be located on the ground floor with plenty of ventilation, and the fire room cool and comfortable. It being necessary to keep engines, shafting and dynamos as cool as possible good ventilation should be provided therefore. The dynamo room should be directly over the shafting lines, well lighted and the ventilation perfect. The roof should be constructed without intermediate posts or supports, and of sufficient height and strength to support an overhead track, so that dynamos or armatures can be hoisted and carried over the ones that may be running. A cupola should be provided with window ventilators extending the full length of the two sides, and so arranged as to be under the control of the machine man; the line wires being run from this cupola as required. A store room of good size should be provided and fitted up with closets, drawers and shelves. The workshop should be suitable for lathe and benches.

Mr. G. T. Henthorn gave a detailed description of a new station building at Providence, R. I.

Those wishing to continue the subject will find a full description in the issue of August 17th of the *Western Electrician* of Chicago.

THE Kearny street property owners and business men have petitioned the Board of Supervisors to have that street paved with bituminous rock. The Street Committee of the Board has approved the petition and ordered specifications for the work to be prepared. The laying of this pavement on one of our principal streets will be a long step in the right direction, for besides the advantage of noiselessness this pavement requires but a fraction of the traction power necessary on the uneven cobbles and basalt blocks with which our main business streets are now disfigured.

IN new apartments. The Technical Society and the Astronomical Society of the Pacific Coast have rented the large rooms adjoining the offices of this Journal. These spacious rooms are light, airy and convenient, and will be open at all times of the day to the membership of these societies. We congratulate them on their new departure and welcome them to all the benefits.

Magnitude in Architecture.

MAGNITUDE is the great object and result of design, and this quality is only to be attained by the fine adjustment of relative proportions in magnitude and order. Architecture (says Aristotle) consists in magnitude and order. The works of man, compared with those of Nature, display our insignificance. The Pyramids, seen in the clear sky of Egypt, or St. Peter's at Rome, are proverbially disappointing to the first gaze of the beholder; it is only after he has instituted comparisons and measurements that he becomes sensible of the greatness of these human efforts—and his memory will supply him with many instances in which objects of inferior dimensions have surpassed them in impression of magnitude upon his mind. It is plain, therefore, that art alone can produce the full effect of magnitude, and to this the architect should direct all his skill; the ancients will be found consummate masters in this as well as in every other department of our art. It is, indeed, a fine art which enables the accomplished artist to raise ideas of magnitude and grandeur of composition on a piece of paper no bigger than your hand; while a less able one will cover a vast canvas without executing any comparable notions. Worthy of all inquiry and solicitude is such an art, for is the whole art of design and proportion. Pliny cities a statue of Hercules, so small that it might be lifted by the hand, which, however, conveyed more grandeur, magnitude and strength to the mind of the observer than a Colossus would have done. How great must have been the science of the master! And if, with such small means, he could effect the mind with these impressions, how great the economy of cost and material to the employer!—C. R. Cockerel, in *The Architect*.

Treatment of Ceilings.

THE ceiling is perhaps the part of an apartment that calls most loudly for decoration, and no architectural feature is more susceptible of it, where it might be introduced with more effect or give more pleasure to the inmate; yet this feature we almost invariably neglect. We naturally look up for beauty; however lovely the earth the sky both night and day presents us with greater charms; we are cheered in our outdoor hours by its ever changing picture, for which a flat white plane is a miserable substitute in our indoor life. To houses of the very highest class these remarks will apply, for it is a feature which has not had its due proportion of attention in point of decoration in any class of buildings, from the cottage to the palace. There certainly can be no more fitting place for decoration in the habitation of a being created upright. Can inconsistency be more extreme than that presented by thousands of apartments where a rich, elaborately decorated carpet is under the feet, and a plain, dead, flat ceiling above? In the interior of Arabian buildings the ornaments almost invariably become richer, more delicate and minute, as their height from the floor increases, and the most exquisite productions of the artist are lavished on the ceiling. With respect to the form the curve is at all times preferable to the flat, though the latter by various means is capable of great beauty also. No very great additional height is required in order to have a curved ceiling, as whether coved or segmental the rise need not be very great. For rooms of great pretension there is no form more noble and natural than the vault and dome, particularly the latter, whether hemispherical or segmental, as far as it suits the plan or can be adapted by pendentives or otherwise. It is the best substitute for the blue vault of the sky, the starry concave of the heavens. It was a fine idea of the builders of the mosque of St. Sophia at Constantinople — a conception in advance of ours—to make the curve of its dome so flat that it should seem to correspond with that of the sky, and be a portion of the firmament. We want an enlarged, improved, enriched, and at the same time inexpensive system of interior decoration, for domestic and ecclesiastical, commercial and other buildings, in our Anglo-Classic styles. For churches, collegiate and other buildings in the Pointed style, we have examples in our cathedrals and other buildings, which prove that the genius of interior decoration was once among us, as well as the taste to employ it. At Henry the Seventh and King's College Chapels; the oratory at Beauchamp Chapel; the Temple Church; Wolsey's Hall, Hampton Court; Christ Church Hall, Oxford; Westminster Hall, and others, we have ceilings and roofs that might vie with any that Europe could show. For assistance in evolving a system of Classic decoration we might look to some parts of the Continent. Exterior decoration there has sometimes probably been carried too far, a few Continental edifices exhibiting ornaments so minute and fragile as to seem at least unfit for exposure to the weather in any climate. But this could not be said of interiors. The Moorish or Morisco-Spanish architecture suggests to us what richness might be produced by very simple means; their icicle pendents, inlays and casings, and purely geometrical and imaginative ornaments, are very effective, and with them they often produced greater results than we, with all nature to imitate, have attained to. But the art of interior decoration was better understood and more successfully practiced in the great age of modern art in Italy, and indeed throughout the Middle Ages, than at present in any country. We never had any decoration to be compared with the mural and fresco paintings of the Italians, and there is probability in the supposition that their system was obtained from remains of the ancients, which time or violence has not spared to us. Beside the curved and richly emblazoned ceilings produced by the Italians, and the pictorial embellishment of their walls, ours might symbolize poverty itself. The ceilings of the principal apartments of a Roman, Genoese, Venetian or Florentine palace were considered as most important features, and on their designs and executions the highest talent was employed. In ecclesiastical buildings the contrast with ours would be still greater. Whilst the interior of the churches of Italy glow with every rich hue of the marble quarry, and are virtually galleries of art, what is the aspect of ours?—*London Architect.*

The September number of the "*House Painting and Decorating,*" a monthly publication comes to us in a wonderfully improved appearance. We commend all our patrons to subscribe at $1 00 a year. Address 1130, 35th street, Philadelphia.

Architectural and Mechanical Works.

In our list below will be found the names of books on architectural and mechanical subjects, the prices of which have been greatly reduced if taken in connection with the California Architect Old subscribers will be given the books at a large discount, so that they may feel that no favoritism is shown. It will be noticed that some of the books are given free to new subscribers.

	Price of Book.	With *Cal. Architect.*
Mechanics' Geometry	$5 00	$5 57
Monckton's National Carpenter	5 00	5 75
Cottages	1 00	5 40
Shavings and Saw Dust	1 50	2 75
Moore's General Assistant	2 50	2 25
Plaster and Plastering	1 00	3 40
Hand-Book of Legendary Art	3 00	2 75
Manual for Furniture Men	1 00	3 40
Water Closets	1 50	2 40
Cutting Tools	1 50	2 00
Sewer Gas and Its Dangers	1 25	3 50
Handrailing and Staircasing	1 25	2 75
Sloan's American Houses	1 50	2 75
Amateur Mechanic's Workshop	1 50	2 00
American Cottage Builder	3 50	3 00
Wheeler's Rural Homes	1 50	4 00
Burns' Ornamental Drawing	1 00	3 40
Manual of Drawing for Carpenters	3 00	2 00
Steam Engine Catechism	1 00	4 40
Grimshaw on Saws	4 00	2 75
Modern Low-Cost Houses	50	4 00
A Cosy Home	25	2 00
California Picturesque Architecture, No. 1	3 00	4 00
California Picturesque Architecture, No. 2	3 50	4 25
The Artisan	5 00	5 75

The following are justly recognized as standard publications. Some of them are perfectly new works, but we make the same general reduction:

	Price of Book.	With *Cal. Architect.*
Tredgold's Carpentry	$ 7 50	$ 8 25
Building Construction, 3 vols., Smiths	14 00	14 75
Picture-Making with Pen and Ink	4 00	5 25
New Cottage Homes and Details (Palliser's)	4 00	5 25
Palliser's New Quarterly, per year	3 00	4 00

We can furnish any book printed at publishers' prices, and will send all books free by either mail or express.

High Houses in London.

A proposal to restrict the height of houses in London has been brought before Parliament by Mr. Whitmore, M. P. The scheme makes a distinction between streets less than sixty feet in width and those of greater width. In the former streets buildings are allowed to be erected up to sixty feet in height, but no more, except in the case of churches or chapels. Where the street or place is wider than sixty feet, the height of the building must not exceed the width of the street or place. If, however, the consent of the county council be obtained, this height may be exceeded. And, without such consent, the height of any building so erected may not be at any time subsequently increased so as to exceed the width of the street. It is made the duty of the district surveyor of the county council to inform the Home Secretary of any building intended to be erected contravening the provisions of the bill. The main object of the bill is to give to the county council powers to restrict the excessive height of buildings in existing streets in London. The county council has such powers in the case of new streets; but in the case of existing streets it is said that neither the county council nor any government department has any power to restrict the height of buildings.—*London Times.*

We notice an article on slow burning construction in the September number of the *Overland Monthly* by M. J. Bugbee of this city, which advocates an entire change in the building of houses. Mr. Bugbee contends that a radical improvement can be made by architects and builders in the erection of buildings which will make them almost fireproof, while the cost of the method will be increased not more than 8 per cent above the present rates.

THE New York *Times* publishes a long and earnest editorial about the new Municipal Court building for that city, expressing the opinion that a building erected in accordance with the selected design will be "discreditable to the city and to the commissioners who authorized its selection." That the idea of matching the architects against each other to see who would do it for the smallest percentage on the cost put the city in an "undignified and ridiculous position," and that the best way would be to appoint a new jury of real experts to examine all the designs over again, and if it should find that the one selected was really the best, to get up a new competition which would attract men capable of making better ones. Of course it is very unlikely that this advice will be followed, particularly as the commissioners have already bound the city to the architects whom they have selected by a contract which it would be a costly and difficult undertaking to break; and we cannot but regret that the *Times* should not have expressed its very judicious views before, not after the competition was decided. If a few daily papers so able and influential as the *Times* would come to the aid of the technical press in helping people to understand, before important competitions, the conditions which all architects of character consider essential to a fair contest, and the reasonableness and moderation of these requirements, the disgusts, disappointments and losses which attend nearly every public competition might be saved. The conditions are very simple. Nothing more is needed than to engage that the work shall be carried out, or if not, that a suitable compensation shall be paid the architect selected for the first place; that if it is carried out the author of the most meritorious design shall be employed to execute it at the customary commission of 5 per cent on the cost; that the award shall be made under the advice of one or more architects known to the profession as competent judges; and that time enough shall be allowed for men actively employed in other work to prepare, and carefully study, drawings, the nature of which shall be exactly stated in the programme. The original invitation of the Sinking Fund Commissioners allowed a very short time, about seven weeks, we think, for the preparation of a design which could not be properly studied under about as many months by an architect in ordinary practice, and no promise was made that experts would be employed to pass upon the merits of the designs. The consequence was that most architects of standing, after reading the programme, threw it into the waste-basket, where the programmes of public competition generally go in good offices, and for the same reasons; and the field was left, as it usually is, to the few people who are willing to do themselves the injustice of getting up a crude, hasty sketch, and committing it to fortune, without any assurance that it will be fairly judged.—*American Architect.*

Flash-light photography is being used by the sanitary inspectors of New York to obtain graphic pictures of the overcrowded condition of the tenement houses of that city.

Cabots' Creosote Shingle Stains on Redwood.

"The use of Cabot's Creosote Shingle Stains in California is on the increase. We note that they have been recently used on the hotel Vendome at San Jose, and on Judge Venves residence at Los Gatos. In both of these cases they were used on redwood, and the architects, Jacob Lenzen & Son, San Jose, and the painters J. P. Jarman & Co. of the same city, write that they give perfect satisfaction, and that they cheerfully recommend them for similar work."

At the time the consolidation of the American Institute of Architects and the Western Association was decided on, the executive officers of the two bodies were instructed to meet, choose the time and place, and call a joint convention. There has been great delay in the matter, from the fact that differences of opinion exist as to the best place for the convention to meet. The secretary of the Institute advocates Washington, for the reason that it is neutral ground, while the president of the Western Association favors some city that is the center of the great business and commercial interests.

Straightening Walls of Buildings.

THE weight of the roof of the large gallery of the Conservatoire de Arts et Metiers pressed the sides outward so as to endanger the building, and it was requisite to find means by which the wall should be propped so as to sustain the roof. M. Molard contrived the following ingenious plan for that purpose: A series of strong iron bars were carried across the building from wall to wall, passing through holes in the walls, and were secured by nuts on the outside. In this state they would have been sufficient to have prevented the further separation of the walls by the weight of the roof, but it was desirable to restore the walls to their original state by drawing them together. This was affected in the following manner: Alternate bars were heated by lamps fixed beneath them. They expanded, and consequently the nuts, which were previously in contact with the walls, were no longer so. These nuts were then screwed up so as to be in close contact with the walls. The lamps were withdrawn and the bars allowed to cool. In cooling they gradually contracted and resumed their former dimensions, consequently the nuts, pressing against the walls, drew them together through a space equal to that through which they had been screwed up. Meanwhile the intermediate bars were heated and expanded and the nuts screwed up as before. The lamps being again withdrawn, they contracted in cooling and the walls were further drawn together. This process was continually repeated, until at length the walls were restored to their perpendicular position. The gallery may still be seen with the bars extending across it and binding together its walls.

CITY BUILDING NEWS.

*B*roadway bet. Pierce and Scott. Owner, Wm. Thomas; architect, Wm. F. Smith; contractor, G. V. Hussey; cost, $3,871; sureties, Frank P. Latson and J. H. Wilson; filed Aug. 12; signed Aug. 2; limit, 4 months: to build $725.75; framed $725.75; covered in $725.75; plastered $725.75; completed $968, 35 days.

*B*rannan bet. Fifth and Sixth. Owner, Hermann Zweig; architect, W. Winterhalter; contractors, Brennan & Fladung; cost, $3,260; sureties, O'Connell & Lewis, $3,000; filed Aug. 13; signed Aug. 12; limits, 35 days; additions to South Park Malt house $800; first story up $800; third story up $800; completed $860, 35 days.

*B*roadway and Pierce. Owner, Julius Weber; architects, Percy & Hamilton; contractor, J. B Gonyeau; cost, $3,145; sureties, C. A. and Geo. W. Hooper, $2,500; filed, Aug. 21; signed, Aug. 15; limit, 90 days; 2.story frame; 75 per cent as work progresses on first Saturday of each month; balance, 35 days:

*B*rannan, bet. Fifth and Sixth, South Park Malt House. Owner, Herman Zweig; architect, W. Winterhalter; contractor, W. Hurve; cost, $2,115; sureties, David Werner and Otto Fauss; filed Aug. 19; signed Aug. 12; limit 42 days: alterations; $500 roofed; $500 tinning done; $500 completed; $515 35 days.

*C*ity Hall and Park avenue. Owner, Geo. T. Marye, Jr.; arceitect, Wm. F. Smith; contractor, J. H. Wilson; cost, $18 400; surety, Willis H. Davis; filed Aug. 22; signed Aug. 13; limit 6 months; mason work; $1,750 graded; $4,250 first floor joist on; $3,650 second floor joists on; $3,650 roofed; $500 tiled; $4,600 35 days.

*C*ity Hall and Park avenue. Owner, Geo. T. Marye, Jr.; architect, Wm. F. Smith; contractors, Duffy Bros.; cost, $1,990; filed Aug. 22: signed Aug. 13; limit six months; plumbing; $1,000 rough work is tested; $400 completed; $490 35 days,

*C*hurch and Twenty-first. Owner, S. Slemmer; architect, Wm. Mooser; contractor, Wm. S. Lott et als; cost $4,000; sureties, J. E. Wells and Jos. Paudler, $2,200; filed Aug. 30; signed Aug. 28; limit 70 days; to build; $750 framed; $750 ready for lathing; $750 rear platform up; $750 completed; $1,000 35 days.

*C*ity Hall and Park avenue. Owner, Geo. T. Marye, Jr.; architect, Wm. F. Smith; contractor, S. H. Kent; cost, $9,675; surety, Edward P. Blake; filed Aug. 22; signed Aug. 13; limit six months; carpenter work; $1,000 second story joists on; $2,000 roof is tinned; $1,500 ready for plaster; $2,956 completed; $2,419 35 days.

*C*ity Hall and Park avenue. Owner, Geo. T. Marye, Jr.; architect, Wm. Smith; contractors, O'Connell & Lewis; cost, $6,000; surety, Jeremiah Mahony; filed Aug. 22; signed Aug. 13; limit six months; cast iron; $2.250 basement column set; $2,250 first story columns set; $1,500 35 days.

*C*ity Hall and Park avenue. Owner, Geo. T. Marye, Jr.; architect, Wm. F. Smith; contractors, Bigelow & Little; cost, $,876 surety, Oscar Lewis; filed Aug. 22; signed Aug. 13; limit six months; iron and Hyatt lights for sidewalk; $1,150 iron beams all set; $1.757 Hyatt lights completed; $969 35 days.

*C*ity Hall and Park avenue. Owner, Geo. T. Marye, Jr.; architect, Wm. F. Smith; contractor, C. C. Morehouse; cost, $1,622; sureties, Jno. Tuttle; filed Aug. 22; signed Aug. 13; limit six months; plastering; $800 brown coated; $400 completed; $422 35 days.

*C*lay, bet. Powell and Mason Owner, C. Colette; architect, W. H. Armitage; contractor. Francis Buckley; cost, $5,800; surety, L. A. Maison, $5,000; filed Aug 10; signed Aug. 5; limit 75 days; 3 story frame; $1,450 framed; $1,450 brown coated- $1,450 completed; $1,450 35 days.

*D*ale Place and Golden Gate Ave. Owner, Andrew Heneberry; architect, A. J. Barrett; contractor, C. N. Smith; cost, $2,360; surety, Frank P. Latson, $1,000; filed Aug. 5; signed Aug. 1; limit, 60 days; alterations, etc., 75 per cent to be paid as work progresses, bal. 35 days.

*D*evisadero and Haight. Owner, Anita Fallon; architect. Fred E. Wilcox; contractor, John H. McKay; cost, $8,620; sureties, Frank P. Latson and Geo. T. Shaw, $4,310; filed. Aug, 21; signed Aug. 19; 3-story building; $2,155 framed; $2,155 brown coated; $2,155 completed; $2,155 35 days.

*E*ighteenth and Noe. Owners, Annie Loy and husband; architect, Frederick Miller; contractor, Wm. McPhee; cost, $2,600; filed Aug. 15, signed Aug. 14; limit. 70 days; building $600; enclosed $2,000, 35 days.

*E*llis and Gough. Owner, Jacob J. Rauer; architects, Chas. R. and John M. Wilson; contractor, James Geary; cost, $9,375; filed Aug. 7; signed Aug. 6; brick and carpenter work for a 1-story frame $1,000; first story joists on $1,200; roof on $1 200; brown coated $1,831; white coated $1,800, completed—

*E*llis and Gough. Owner, Jacob J. Rauer; architects, Chas. R. and John M. Wilson; contractor, R. A. Vance; cost, $1,140; filed Aug. 7; signed Aug. 6; plumbing, etc. $570; rough work in $285; accepted $285, 35 days.

*E*llis and Gough. Owner, Jacob J. Rauer; architects, Chas. R. and John M. Wilson; contractors, Chattain & Gilletti; cost, $2,248; filed Aug. 7; signed Aug. 3; cement work, 75 per cent as work progresses, bal. 35 days.

*F*ront and Vallejo. Owner, Mrs. E. B. Sanborn; architects, Wright & Sanders; contractor, John S. Mackay; cost, $17,655; filed Aug. 13; signed Aug. 12; brick building and construction of iron safe, 75 per cent of work done, bal. 35 days.

*F*ourth and Bluxome. Owner, Peter A. Smith; architect, T. J. Welsh; contractor, John J. Dunn; cost, $5,977; sureties, Behrend Joost and W. A. Meeser, $3,000; filed Aug. 10; signed Aug. 5; limit 77 days; carpenter work; $1,400 framed; $2,400 brown mortared; $1,6 0 completed; $1,577 35 days.

*F*ulton and Buchanan. Owner, N. B. Manville; architect; N. B. Manville; contractor, I. F. Klenck; cost, $1,875; filed Aug. 15; signed Aug. 13; limit, 2 months and 20 days; 2-story building $450; framed $465; plastered $475; completed $485, 35 days.

*Fair Oaks bet. Twenty-third and Twenty-fourth. Owner; Jos. Perri; architect, T. F. Mitchell; contractor, Thos. F. Mitchell; cost, $2,980; filed Aug. 3; signed Aug. 3; limit, 70 days; 2-story frame $745; framed $745; brown mortared $745; completed $745, 35 days.

*Franklin and Ellis. Owner, Academy of Sacred Heart; architect, Chas. J. I. Devlin; contractor, John Massey; cost, $4,650; sureties, J. J. and James McKinnon, $2,500; filed Aug. 22; signed Aug. 20; limit 60 days; 2-story frame; $750 second story joists on; $1,000 roofed; $1,725 completed $1,175 35 days.

*Folsom and Seventh. Owner, Thos. Brady; architect, M. J. Welsh; contractor, Ivory Wells et al; cost, $1,700; filed Aug. 23; signed Aug. 21; alterations; $400 framed; $450 brown coated; $450 completed; $400 35 days.

*Folsom and Twenty-sixth. Owner, Jos. Blass; contractor, G. Pavel; cost, $3,360; filed Aug. 23; signed Aug. 10; limit 90 days; 2-story frame; $1,000 framed; $1,000 brown coated; $1,000 completed.

*Fulton and Octavia. Owner, John McCarthy; architect, S. Hatfield; contractor, Geo. W. Farnum; cost, $7,995; sureties, F. Joost and Matt Lassell, $4,000; filed Aug. 8; signed Aug. 7; 3-story tenement; $1,000 framed; $1,500 chimneys up; $1,400 windows in; $1,496.25 completed; $1,798 35 days.

*Fell and Laguna. Owner, Robert Layng; contractor, Geo. W. Saulsbury; cost, $2,476; sureties, Daniel Dodge and Edward P. Blakely; filed Aug. 9; signed July 27; limit, Oct. 15, '89; to build; $686.50 framed; $685.50 enclosed; $686.50 brown coated; $686.50 35 days.

*Folsom, bet. Twelfth and Thirteenth. Mrs. B. Feldmann; architects, Townsend & Wyneken; contractors, Gray & Stove; cost, $4,244; surety, Louis Mandlebaum, $2,000; filed July 19; signed July 12; limit 90 days; to build; $2,144 outside two-thirds done; $2,100 35 days.

*Greenwich and Fillmore. Owner, Peter Magnussen; architects, John & Balczynski; contractors, Chas. Johnson et al; cost, $2,700; filed Aug. 20; signed Aug. 16; 2-story frame; $500 framed; $800 rough mortared; $725 accepted; $675 35 days.

*Grove, bet. Franklin and Gough. Owners, Schussler Bros.; architect, H. C. Macy; contractors, White Bros.; cost, $5,600; surety, F. Joost, $2,500; filed Aug. 20; signed Aug. 19; limit Oct. 2'89; carpenter work; 75 per cent as work progresses; bal. 35 days.

*Grove and Franklin; Owner, Jane Besby; architect, Chas. J. I. Devlin; contractor, W. B. Anderson et al.; cost, $5,087; sureties, J. F. Kennedy and Geo. T. Shaw, $4,000; filed Aug. 12; signed Aug. 7; 3-story frame $300; framed $500; roof completed $1,000; brown coated $750; exterior mill work completed $900; ready to paint $350; completed $1,287, 35 days.

*Hickory and Van Ness Ave. Owner, Emily L. Squire; architect, A. J. Barrett; contractor, L. D. Frichette; cost, $2,700; surety F. G. Norman, $1,000; filed Aug. 6; signed Aug. 2; limit, 75 days; 2-story frame $700; roof boards on $650; brown coated $675; completed $675, 35 days.

*Hayes and Octavia. Owner, O. H. Hund; architect, A. C. Lutgens; contractor, S. H. Kent; cost $8,299; sureties, E. M. Herrick and Frank P. Latson, $5,000; filed Aug. 13; signed Aug. 8; limits, 95 days; 3 story frame $1,000; first story joists up $1,300; enclosed $1,300; rough plumbing done $1,200; ouside work done $1,424.25; completed $2,074.75; 35 days.

*Hayes and Gough. Owner, Albert Abrams, et al.; architects, Salfield & Kohlberg; contractors, Fuchs & Bucher; cost, $8,612; sureties, H. Niemann and H. Schlesselmann, $8,612; filed Aug. 8; signed Aug. 6; alterations, etc. $1,250; first joists up $1,000; framed $2,000; brown coated $1,000; doors hung $1,209; completld $2,153, 35 days.

*Hayes and Webster. Owner, P. Hurley; architect, W. H. Armitage; contractor, C. A. Laherty; cost, $3,690; sureties, J. McGuire and O. H. Greenwald, $3,000; filed Aug. 25; signed Aug. 22; limit 60 days; 2-story frame; $922.50 framed; $922.50 brown coated; 5922.50 completed; $922..50 35 days.

*Howard and Sixth. Owner, H. Comaherns; architect, H. Geilfuss; contractor, J. W. Smith; cost, $5,375; filed Aug. 16; signed Aug. 14; 3-story frame $800; framed $800; partitions set $800; outside work done $800; inside finished $830; completed $1,345, 35 days.

*Howard and Twenty-fifth. Owner, Geo. L. Payne; architect, M. J. Lynch; contractor, M. C. Lynch; cost, $4,966; filed Aug. 8; signed Aug. 7; to build $1,241.50; framed $1,241.50; rough mortared $1,241.50, completed $1,141.50, 35 days.

*Herman and Stevenson. Owner, Mrs. M. A. Mercer; architect, T. J. Welsh; contractors, R. Doyle & Son; cost, $5,989; sureties, Thos. Winters and P. F. Ward, $3,000; filed Aug. 22; signed Aug. 16; $1,400 framed; $1,400 framed; $1,400 brown mortared; $1,500 completed; $1,689 35 days.

*Jersey and Noe. Owner, F. Mundwyler; architect, A. Klahn; contractor; A. Klahn; cost, $3,150; filed Aug. 12; signed Aug. 12; 2-story flat $775; boarded $775; brown-mortared $775; completed $825, 35 days.

*Jones and Bush. Owner, C. F. Sanders; architect, Chas. I. Haven; contractor, Wm. F. Wilson; cost, $1,097; filed Aug. 5; signed July 29; plumbing, etc., $400; rough pipes in $417; completed $280, 35 days.

*Kearney and Washington. Owner, Louis Schultz; architect, Wm. Mooser; contractor, Crawford Ferris; cost, $18,400; sureties, C. A. Warren and J. O. Button, $12,000; filed Aug. 30; signed Aug. 10; limit 11 days; brick and stone work; 75 per cent as work progresses; bal. 32 days.

*Kearney. Owner, Louis Schultz; architect, Wm. Mooser; contractor, Joshua Hendy Machine Works; cost, $18,740; filed Aug. 30; signed Aug. 14; wrought and cast iron work; 75 per cent as work progresses; bal. 35 days.

*Kearney and Washington. Owner, Louis Schultz; architect, Wm. Mooser, contractor, J. W. Wissinger; cost, $37,500; sureties, C. C. Rodiffs and E. M. Herrick, $20,000; filed Aug. 30; signed Aug. 28; carpenter work, etc.; 75 per cent as work progresses; bal. 35 days.

*Kearny and Washington. Owner, Louis Schultz; architect, Wm. Mooser; contractor, Richard Rice; cost, $9,535; sureties, Robt. Dalziel and A. W. Wilson, $5,000; filed Aug. 28; signed Aug. 10; plumbing, etc.; 75 per cent as work progresses; bal. 35 days.

*Larkin bet. Geary and O'Farrell. Owner, Samuel Brodek; architects, Salfield & Kohlberg; contractor, H. Williamson; cost, $1,532; security, Thos. Holms, $1,532; filed Aug. 6; signed July 19; plumbing, etc. $500; rough plumbing in $600; completed $432, 35 days.

*Larkin bet. Geary and O'Farrell. Owner, Samuel Brodek; architect, Salfield & Kohlberg; contractor, Chas. Dunlap; cost, $2,275; surety, Henry S. Gray, $2,275; filed Aug. 6; signed Aug. 2; plastering $1,000; brown coated $705; completed $570, 35 days.

*Lafayette, bet. Mission and Howard. Owners, Bernard Dowd and wife; rchitects, Townsend & Wyneken; contractor, A. C. Rogers; cost, $1,550; surety. T. Richardson, $1,500; filed Aug 9; signed Aug. 8; alterations, etc.; $350 enclosed, etc.; $400 floors laid, etc.; $415 accepted; $385 35 days.

*Montgomery ave and Jackson St. Owner, John B. Magendie; architects, Huerne & Everett; contractors, Martin Fennell & Son; cost, $3,330; surety, Matthew Nunan, $3,000; filed Aug. 12; signed Aug. 12; $1,165 brick side walls are completed, etc.; completed, $332.50; 35 days.

*Miles court and California street. Owner, Cephas Turner; architect, S. Hatfield; contractor, Allan McDonald; cost, $2,250; sureties, F. Atherolte and Alex. MacDonald, $1,500; filed Aug. 21; signed Aug. 17; 2-story frame; $420 framed; $420 brown mortared; $420 outside finished, etc., $ 27.50 completed; $562.50 35 days.

*Market bet. Fourth and Fifth str ets. Owner, California Academy of Sciences; architects, Percy & Hamilton; contractor, O. E. Brady; cost, $19,500; sureties, Robert Mitchell and Jeremiah Mahony, $7,000; filed Aug. 26; signed May 21; limit 100 days sandsto e work; 75 per cent as work progresses on fi st Monday of each month; bal. 35 days.

*McAllister and Baker. Owner, Chas J. Rosenthal; architect, R. H. White; contractor, Wm Langstaff; cost, $8,580; sureties, Frank P. Latson and F. H. Rosenbaum, $6 000; filed Aug. 24; signed Aug. 22; 3-story frame; $1.347 framed; $1,272 enclosed; $1,272 brown coated; $1,272 standing finish on; $1,272 completed; $2,145 35 days,

*No. 1306 Greenwich. Owner, F. Koenig; contractor, G. T. Knopf; cost, $1,600; filed Aug. 12; signed Aug. 7; to build $600; brown coated $600; completed $400, 35 days.

*N. E. Jones and E lis. Owner, Chas. Neff; architect, Wm. Mooser; contractor, J. J. Dunn; cost. $5,125; sureties, Behrend Joost and W. A. Meeker, $3,000; filed Aug. 16; signed Aug. 12; limit, 75 days; to build, 75 per cent as work progresses, bal. 35 days.

*N. Twenty-fourth and Treat Ave, Owner, O. F. Von Rhein; architect, H. Geilfuss; contractor; J. W. Smith; cost, $5,955; filed Aug. 16; signed Aug. 12: 2-story frame $873; framed $873; partitions set $873; outside done $773; inside done $873; completed $1,593, 35 days.

*N. Pacific and Scott. Owner, J. S. Bunnell; architects, J. C. Matthews & Son; contractor, W. Winnie; cost, $4.960; filed Aug. 17; signed Aug. 14; to build $1,240; one-third of work done $1,240; two-thirds of work done $1,240; completed $1,240, 35 days.

*Nos. 638 and 640 Mission. Owner, Frederick Hufschmidt; architect, R. Zimmerman; contractor, Riley & Loane; cost, $3,200. filed Aug. 6; signed July 27; alterations $2,400; completed $800, 35 days.

*Natoma and Lafayette. Owner, Philipp J. Stolz; architect, John Foster; contractor, John Foster; cost, $5,750; sureties, P. Swift and J. Smith; filed Aug. 22; signed Aug. 21; limit, 90 days; 2-story frame; $1,000 framed; $1,000 enclosed; $1,000 brown coated; $1,300 completed; $1,450 35 days.

*No 310 Page. Owner, Edwin Wendele; architect, John J. Clark; contractor, John G. Adams; cost, $5,450; sureties, S. Harmon and F. Joost, $5,000; filed Aug. 27; signed Aug. 23; alterations; $1,500 enclosed; $1,000 brown mortared; $1,500 inside finish on; $1,450 35 days.

*Oak and Buchanan. Owner, Catharine Holton; architects, Huerne & Everett; contractor, James Campbell; cost, $3,920; sur ty, J. W. Starbird, $3,000; filed, Aug. 21; sign d Aug. 19; 2-story frame; $980 framed; $980 brown coated; $980 completed; $980 35 days.

*Turk and Franklin. Owner, Patrick Muldoon; architects, Huerne & Everett; contractor, James Campbell; cost, $4,875; surety, A. W. Starbird, $3,000; filed, Aug. 21; signed Aug. 19; 2-story frame; $1,218.75 enclosed; $1,218.75 brown coated; $1,218;75 completed; $1,218.75 35 days.

*Pacific bet. Buchanan and Webster. Owner, Mrs. M W. Lux; architect, Samuel Newson; contractor, Geo. R. Lang; cost, $1,775; filed Aug. 15; signed Aug. 14; limit, 40 days, alterations, etc., 75 per cent as work progresses, bal. 35 days.

*Pacific and Pierce. Owner, Ella J. Yates; architect, Samuel Newson; contractor, Geo. R. Lang; cost, $3,056.50; sureties, A. Kendall and Robt. A. Vance, $10,000; filed Aug. 10; signed Aug. 10; limit 110 days; 2-story frame; $1,208.50 foundation in; $1,208.50 roof on; $1,208.50 brown mortared; $1,208.50 outside finished; $1,208.50 completed; $2,014.50 35 days.

*Pacific and Steiner. Owner, James Stewart; architect, Wm. F. Smith; contractor, W. N; Concannon; cost, $6,545; filed Aug. 27; signed Aug, 24; to build; $1,636.25 framed; $1,636.25 ready for plastering; $1,636.25 completed; $1,536.25 35 days.

*Polk and Filbert. Owner, Louis Schneider; architect, Wm. H. Wharff; contractor, John T. Hayes; cost, $4,404; sureties, E. J. Reynolds and D. S. Cartwright, $2,500; filed Aug. 30; signed Aug. 27; limit 70 days; 2-story frame; $600 roof shingled; $600 brown coated; $600 white coated; $900 completed; $1,104 35 days.

*Page and Baker. Owner, Frank A. Lux; architect, H. Geilfuss; contractors, White Bros.; cost, $5,875; filed Aug. 19; signed Aug. 15; 2-story frame; $880 framed; $880 roofed; $880 partitioned; [$880 inside finish on; $880 completed; $1,475 35 days.

*S. Sutter and Octavia. Owner, Thos. W. Boyd; architect, J. M. Curtis, contractor, James Geary; cost, $7,675; surety, R. L. Taylor and Geo. W. Watson, $5,000; filed Aug. 16; signed Aug. 13; building 75 per cent as work progresses, bal. 35 days.

*S. Sutter and Octavia. Owner, India L. Willis; architect, John M. Curtis; contractor, James Geary; cost, $7,790; sureties, R. L. Taylor, $5,000; filed Aug. 16; signed Aug. 13; to build, 75 per cent as work progresses, bal. 35 days.

*S. Haight and Pierce. Owner, Maurice Blass; architect, A. J. Barnett; contractors, Roudtree Bros.; cost, $5,700; surety, F. Joost, $3,000; filed Aug. 16; signed Aug. 13; limit, 90 days; 2 story frame $1,200; roof boards on $1,000; brown coated $1,075; white coated, etc., $1,000; complete $1,425, 35 days.

*Sacramento bet. Polk St. and Van Ness Ave. Owner, J. Caz aux; architect, Townsend & Wyneken; contractor, A. H. Plummer; cost. $4,300; filed Aug. 5; signed July 31; to build $1,000; framed $1,100; brown coated $1,100; white coated $1,100, 35 days.

*Steiner, near Walter. Owner, Hans Raon; architect, R. H. White; contractor, Wm. Plum; cost, $4,920; sureties, Behrend Joost and David Woerner, $3,000; filed, Aug. 20; signed, Aug. 15; limit, 90 dys; 2-story frame; $900 framed; $693 frame set; $663 brown coated; $692 standing finish on; $692 completed; $1,250 35 days.

*Sixth and Minna. Owner, Mary E. Von Schroder; architect, T. J. Welsh; contractors, D fty Bros.; cost, $4,562; filed, Aug. 21; signed, Aug. 23; plumbing, etc.; $2,000 rough work in; $1,362 completed; $1,200 35 days,

*Steuart and Mission. Owners, Fred rick Wilde et al; architects, Wilk & Spear; contractor, G. G. Gillespie; $5,100; sureties, W. J. Adams and Edw rd P. Blake, $2,000; 2-story brick; $900 first floor joists on; $956.25 s cond floor joists on; $956.25 enclosed; $956 25 completed; $1,275 35 days.

*Stuart and Mission. Owner, G. G. Gillespie; a chitect, Wild & Spear; contractor, J. J. Conrad; cost, $3,000; filed Aug. 23; signed Aug. 23; brick work; $562 first floor joists on; $5 2 second fl or joists on; $564 enclosed; $564 completed; $750 35 days.

*Sacramento street and Waverly pl ce. Owner. Jos. Goetz; architect, T. J. Welsh; contractor, S. H. Kent; cost, $9,000; sureties, R. L. Taylor and Geo. W. Watson, $5,000; filed Aug. 24; sig ed Aug. 23; limit 60 days; $1,600 second story joists on; $1 600 fourth story; $1,600 floors laid; $1,950 completed; $2,250 35 days.

*Sansome a d Union. Owners, Hav meyers & Elder; architect, R. H. Sprague; contractors, Mahoney Bros.; cost, $75,; 207; filed Aug. 27; signed Aug. 27; to l uild; 75 per cent of value of work during progress; bal. 35 days.

*Steiner and Fell. Owner, James Scobie; contractor, W. J. Burt; cost, $1,500; filed Aug. 31; signed Aug. 26; limit 30 days; to remove house known as Irvine residence; to be paid upon completion.

*Scott and Oak. Owner, Louis Muller; architect H. Geilfuss, contractor, M. C. Lynch; cost, $2,194: filed 19; signed Aug, 19; 1-story frame; $820 framed; $824 complet d: $560 35 days.

*Sheridan and West Ninth. Owner, J. W: Crowe; architect, M. J. Welsh; contractors, R. Doyle & Son; cost, $2,289; filed Aug. 10; signed Aug. 7; to build; $572.25 framed; $572.25 brown mortared; $572.25 completed; $572.15 35 days.

*Turk and Buchanan, Owner, Gabriel Abraham; architect, A. J. Barnett; contractors, Roundtree Bros.; cost, $4,920; surety, Behrend Joost, $2,500: filed Aug. 30; signed Aug. 24; limit 90 days; 2-story building; $1,090 roof boards on; $1,000 brown coated; $800 white coated; $800 completed; $1,230 35 days.

*Twenty-fourth. Owner, J. H. Leonard; architect, John T. Hogan; contractor, Chas. S. Hale; cost, $2,700; sureties, M. M. Travers and John Payne, $1,000; filed Aug. 17; signed Aug. 16; 2-story frame $506; framed $506; rough plumbing done $506; mortared $507; accepted $675, 35 days.

*Twenty-third and Guerrero. Owner, P. R. Lynch; architect Shea & Shea; contractor, Richard Sinnot; cost, $24,556; sureties, A. D. Moore and W. J. Adams; filed Aug. 6; signed Aug. 3; limit, 8 months: frame church $1,500; floor joists set $3,300; framed $3,300; rustic on $3,300; brown coated $3,300; primed $3,600; completed $6,256; 45 days.

*Twentieth and Capp. Owner, John Reid; architect, Chas. I. Havens; contractor, C. E. Dunshee; cost, $3,815; filed Aug. 10; signed Aug. 8; 2-story frame; $900 boarding on; $900 shingled; $900 outside mill work done; $910 completed; $1,205 35 days.

*Van Ness ave. and O'Farrell. Owner, P. W. Riordan; architect, T. J. Welsh; contractors, Mahony Bros.; cost, $51,900; filed Aug. 14; signed Aug. 13; carpenter work, etc., 75 per cent as work progresses, bal. 35 days.

*Waverly Place and Sacramento St. Owner, Joseph Goetz; architect, T. J. Welsh; contractors, Daniel J. Brennan et al; cost, $11,495; sureties, P. Degan and R. Brennan, $8,000; filed Aug. 12; signed Aug. 9; $2,000; basement walls built $2,500; first story is built and iron set $1,500; second story is built $1,200; third story is built 1,425; accepted $2,870, 35 days.

*W. Shotwell and Eighteenth. Owner, Wm. Perkins; architect, R. H. White; contractor, E. W. Hyde; cost, $4,900; sureties, P. Swift and Frank P. Latson, $3,000; filed Aug. 17; signed Aug. 13; limit, 90 days; 3-story frame $900, framed $687.50; frames set $687.50, brown coated $687.50; standing finish on $687.50; completed $1,250, 35 days.

*Webster, bet. Waller and Herman. Owner, Mrs. I. Peterson; architect, Geo Holding; contractor, Geo. Holding; cost, $3,000; filed Aug. 27; signed Aug. 27; limit 75 days; 2-story building; 75 per cent as work is done; bal. 35 days.

*Webster, bet. Waller and Herman. Owner, Mrs. H. E. Olsen; architect, Geo. Holding; contractor, Geo. Holding; cost, $3,000; filed Aug. 27; signed Aug. 27; limit 75 days; 2 story building; 75 per cent as work is done; bal. 35 days.

COUNTRY BUILDING NEWS.

(Special to this Journal.)

OAKLAND AND VICINITY.

Cameron an cDonald, four cottages on Nineteenth street, Brush, total cost $12,000.

D. C. Scanlan, two six room cottages on Jones street, cost each, $1,200.

Fred Geother, cottage on Kirkham, rear Seventh, cost $1,200.

Eight cottages, six rooms, begun on the Herzog Tract.

Wm. R. Batter, two new houses at Newbury Station.

W. T. Keith, large warehouse, East Fourteenth street.

Carl Wilson, two-story frame on Twenty-first, near Filbert, cost $3,000.

Stockton & Murray, cottage six rooms for W. W. Mann, on Linden street, near Twenty-first, cost $2,000.

Goff, six room cottge on Filbert, near Twenty-first, $2,800.

J. J. Kane, cottage for Nicholas Dolan, Fourteenth street and Fifteenth avenue, cost $3,500.

James Brougher, cottage, East Sixteenth street, near Eighth avenue, cost $1,500.

J. F. Forderer is having a $1,000 addition built to his house on Regent street, between Encinal and San Jose avenues, Alameda.

Wm. Wyber has taken the contract to erect a building for N. Reinecker, on his lot on the northeast corner of High street and Encinal avenue, Alameda. It will be one-story, 36x48 feet, and will be divided into two stores.

Jas. K. Lynch has let the contract for the erection of a two-story dwelling house on Sherman street, Alameda. The contract price is $2,788.

The United States Government has let the contract for building a light-house at the entrance to Oakland Creek, and the work will commence at once. The last Congress appropriated $5,000 for the purpose, and McMahon & Son got the contract. The light will be of the fifth or sixth class, which is considered ample for the purpose.

John Vreece, Temescal, cottage on Clairmont avenue.

McAuley, cottage, Grove street, near Thirty-eighth street, cost $1,200.

M. C. Freezy, two story frame, College street, Berkeley.

Congregational Church room to be erected at Mission, San Jose, cost 1,800.

H. Westdrop, cottage, East Sixteenth street, cost $1,500,

A. C. Powell, cottage, East Sixteenth street, cost $1,800.

Geo. W. Watson, cottage, Eighth avenue, near Nineteeth street, cost $2,600.

Frank Loveland, cottage, Twenty-third avenue and Twenty-first street, cost $1,800.

Warren Olney, cottage, Twenty-second avenue and Fifteenth street, cost $3,600.

Thomas Toole, two-story frame, Thirteenth avenue and Fifteenth street, cost $3,000.

Mrs. Enrich, cottage, Fourteenth avenue, near Pourteenth street, cost $1,800.

John Sheehan, cottage, Ninth avenue, near Fourteenth street, cost $1,500.

A. W. Buffett is building a $1,400 cottage on Fortieth street, near Grove.

B. S. Jamieson, eight room cottage, Nineteenth street near Adeline, cost $3,700.

Rev. Dr. Merrill, five room cottage on Twenty-first street near Adeline, cost $1,800.

J. N. Dunster, cottage, 835 Peralto street, cost $1,400.

B. Disabilla, cottage, Forty-fifth street.

John Caddigan, cottage, Eighth avenue, cost $1,410.

F. Boehmer, soon to be erected, three story brick building, Park street, Alameda.

Edward Clark, Niles, cottage, architect W. H. Weilbye, cost $3,000.

Contractor Adams, six room cottage, Magnolia above Fifteenth street.

Howard, cottage, Temescal, cost $1,250.

Welsh Tract, San Leandro. Owner, Manuel T. Souza; architect, F. J. Williams; contractor, F. J. Williams; cost, $1,425; filed, Aug. 6; Payments, 60 days; cottage, $356 25; framed, $356-25; brown mortared, $356 25; completed, $356-25, 35 days.

Institution for Deaf, Dumb and Blind at Berkeley. Owner, J. H. McKay; architect, Wright & Sanders; contractor, Dennis Jordan; cost, $24,300; filed, Aug. 23; Payments 100 days; stone, granite and brick work; 75 per cent. of amount at time said Mackay receives his payment from the State: NOTE—This contract is assigned.

Encinal Ave., near Post St., Alameda. Owner, John J. Boyle; architect, Wright & Sanders; contractor, Julius A. Remmel; cost, $1,207; filed, Aug. 19; Payments, the contractor herein, Dennis ordan, to J. F. Kennedy.

Morton and San Antonio Avenue, Alameda. Owner, Louis F. Geissler; architect, A. W. Pattiani; contractor, A. W. Pattiani & Co; cost, $3,594; filed, August 16; Payments cottage; $400 brown mortar on; $400 completed; $407, 35 days.

Eighth avenue, between E. 14th and E. 15th streets, East Oakland. Owner, Mrs. S. E. Holyer: architect, R. Gray Prise; contractor, William Jess; cost, $2,925; filed, Aug. 5; Payments Nov. 1, 1889; two-story frame; $731 25 enclosed; $731 25 floor laid; $731 25 window frames in. $731 25, 35 days.

Encinal avenue and Post street, Alameda. Owner, F. Marcuse; architect, A. Steubigt; contractor, J. H. Young, cost, 2,000; filed, August 6; Payments October 3, 1889; $500 framed; $500 chimneys built; $500 brown mortared; $500, 35 days.

Willow, near R. R. avenue, Alameda. Owner, Wm. Muller; architect, Fred. P. Fischer; contractor, D. Staub & Son; cost, $2,460; filed August 6; Payments, 90 days; $922 50 framed; $922 50 plastered; $615 completed.

Willow, near R. R. avenue, Alameda. Owner, E. Clark; architect, W. H. Weilbye; contractor, C. E. Dennett; cost, $2,175; filed, August 9; Payments, November 15, 1889; one story frame; $543 75 framed; $543 75 enclosed; $543 75 completed; $543 75, 35 days.

23d avenue and E. 15th street, East Oakland. Owner, Emile Kissling; architect, J. C. Mathews & Son; contractor, H. A. Johnson; cost, $2,173; filed, August 9; Payments, cottage; $250 framed; $500 window frames in; $300 outside painted; $613, completed.

8th avenue, between 18th and 17th streets, East Oakland. Owner, Geo. W. Watson; architect, J. & T. D. Newsom; contractor, J. A. Eastman; cost, $2,600; filed, August 12; signed, August 10.

3d and Louisa streets, Oakland. Owner, Richard Marshall; architect, Speck & Mauer; contractor, Patrick J. Brophy; cost, $1,900; filed August 13; signed, August 6.

Alameda avenue and Willow street, Alameda. Owner, Emilie K. Read and Franklin Read; architect, A. W. Pattiani & Co.; contractor, A. W. Pattiani & Co.; cost, $3,274; filed, Aug. 14; signed, August 5.

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Bancroft Way and Dana street, Berkeley. Owner, Chas. D. Allen; architect, A. W, Pattiani & Co.; contractor, A. W. Pattiani & Co.; cost, $5,532; filed, August 14; signed, August 12.

Adeline Tract, Oakland, Tp. Owner, Mathew Lee; architect, A. W. Pattiani & Co; contractor, W. R. Batten; cost, $1,600; filed, August 15; signed, August 14.

Hirschfeld Tract, Alameda. Owner, H. Forsyth and W. C. Forsyth; architect, A. W. Pattiani; contractor, John J. Boyle; cost, $1,200; filed, August 16; signed, August 14.

San Jose avenue and Chestnut street, Alameda. Owner, Fannie R. Morton; architect, A. W. Pattiani & Co; contractor, A. W. Pattiani & Co; cost, $2,976; filed, August 16; signed, August 14.

Durant avenue and Dana street, Berkeley. Owner, Chas. D. Allen; architect. A. W. Pattiani & Co; contractor, A. W. Pattiani & Co; cost, $3,532; filed, August 16; signed, August 16.

SAN JOSE AND VICINITY.

Residence for Mr. Tillotson, at Berryessa; $4,000.

Residence for Joseph Holland, at Evergreen; W. J. Wolf contractor; $3,000.

Residence for James Farney, on Ninth street; P. R. Wells, contractor; Garden City Mill Work; $3,000.

Mrs. Knox Goodrich, building on First street; R. Summers, contractor for wood work, and W. J. Wolcott for brick work; $10,000.

Dr. Urquhart, residence; C. R. Scammon, contractor; $4,500.

Contractor Hazzard is erecting a five room cottage on Vine street for A. Perry, at a cost of 1,000; also a five room house for Mr. Wright on Minor avenue.

A cottage of five rooms for Frank Lyth; cost $1,500; Ira G. Hazzard contractor.

A six room dwelling for Edward B. Lewis; cost $1,800; Hazzard contractor.

H. H. Farnham is erecting a five room cottage at a cost of $1,200.

J. Slarbore has finished a cottage which cost $1,000.

A house of four rooms is being erected by T. S. Lane at a cost of $900.

A cottage to cost $1,000 is being built for O. P. Cash by Ira G. Hazzard the contractor.

A cottage of four rooms is being built by Mr. Churchill; cost $1,100; Hazzard contractor.

Robert Piggott has contracted to build for William Matthews a one-story frame building on the northwest corner of the Alameda and Autumn street for $6,180.

Residence for James Wyatt, South Seventh street; J. Lenzen & Son, architects; A. Kelsey, contractor; $4,000.

Cottage for Mr. Groves on Hamilton avenue; Frank Davis, contractor; mill plans; $1,800.

Cottage for Mr. Miller on Delmas avenue; Frank Davis, contractor; $1,600.

Cottage for Mrs. Lowe on Little Market street; Frank Davis, contractor; $1,500.

Residence for Frank Davis, North Third street; day work, mill plans; $2,400.

Improvements on First Methodist Church; J. Lenzen & Son, architects; Mr. Phillips, contractor; $6,000.

Residence for C. P. Pauley on the corner of Empire and Tenth; day work, mill plans; $1,500.

Improvements on residence of Mrs. Murphy. Columbet on Fourth street; J. Lenzen & Son architects; day work done by A. C. Bates; $1,000;

Residence for J. Columbet on Fifth street- $3,000.

The Hayes residence at Edenville, G. W. Page architect, to be built by day work at an estimates cost of $75,000.

Cottage for J. Jacks on Tenth street, from plans made in the mill; J. J. Hill contractor; $2,000.

Two cottages for J. R. Johnson, from mill plans; day work; $2,500 each.

A cottage on North Fourth street near Empire, J. N. Stevenson, contractor and architect; $2,000.

A winery for Mr. Blennike on the Stevens creek road, by day work; $3,000.

Cottage for J. K. Smith, on Marliere street; Ira Hazzard contractor; $1,200.

Cottage for C. Ballinghall, on Willow street; day work; $1,000.

Residence for Tom Hughes, on Thirteenth street; day work; $1,000.

Residence on San Fernando street near the bridge; J. A. Crawford builder; $1,000.

Residence on Villa avenue, D. D. Briggs contractor; $1,500.

Cottage for M. A. Brown; cost $1,200; Hazzard contractor.

Cottage of four rooms for Dr. Rappe; $1,500.

J. B. Capp is having a ten room house placed on his lots at a cost of $5,000; Hazzard contractor.

A $3,000 cottage for Benjamin Rordeau is to be erected by Mr. Hazzard.

W. E. Woods is having built a five room cottage; cost $1,200; Hazzard contractor.

An eight room house is being built for M. A. Wischaar at a cost of about $2,500.

O. O. Noble is having a six room cottage built at a cost of $1,300; Hazzard contractor.

C. A. Blewitt is having a five room cottage built at a cost of about $1,100; Hazzard contractor.

Contractor Hazzard also begun yesterday on a handsome six room cottage corner of First and Floyd street:, which is to cost $2,500.

Harry Keist is having a five room cottage built at a cost of $1,000.

Mr. Souders, the owner of the Water Works, is also building a cottage to cost about $1,000.

SANTA ROSA.

Contractor J. R. Melson commenced the erection of a dwelling for D. Hodgson on Slater street.

T. J. Ludwig has commenced the completion of the brick block on Fourth street.

GRASS VALLEY.

S. T. Best's new dwelling house on Race street, near Auburn, is approaching completion. It will be neat architecturally as well as conveniently arranged.

Lumber for a residence for John Polkinghorn was hauled to-day to the Conaway tract on Race street.

Bennetts is building an addition to his dwelling corner School and Walsh streets.

Contractor I. T. Walker is making rapid progress with the large building he is putting up at the corner of Mill and Neal streets.

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SAN FRANCISCO, CAL.

Architecture.

In architecture, an art in which nothing but brains can excel, an art which requires years of study, an art which has no standard of grace but which is directly dependent on utility, an art whose creations derive a part at least of their majesty by mere sizes, our city can boast of many talented men, men who have lent to the city of to-day their creative talents and in the handsome, massive and magnificent buildings which line our streets,and in the palatial residences in every section we see evidences of their skill which would reflect credit on any city in the country.

From the low frame buildings of 1849, of any style and built of any kind of material, the advance has been rapid and steady

One frame or flimsy brick building after another has been replaced by handsome, substantial structures until the city to-day presents as handsome an appearance as any city in the country. Every section of the country has its peculiarities and the architecture of each portion generally conforms to the climate, and the individuality of its people.

In San Francisco where sunlight is so essential to the comfort of a building, and where precaution must be taken against earthquakes, as against cyclones, snow and severe winters in other sections of the country, our local architects have mastered and overcome the difficulties attending and are certainly through their long experience and study in overcoming them, better fitted to draw plans and design buildings of a first-class nature than those of more eastern points, for this section. Evidences of their skill to erect first-class fireproof and earthquake proof buildings are every where apparent in this city and throughout the state, and many of our architects would attain prominence in any city in the country.

As in architecture, so in building,material has there been a decided improvement and except in rare instances do we find the old frame being put up instead of a brick or stone building with possibly the exception of residences.

The time has gone by when a property owner covered his lots with badly designed and badly constructed buildings provided he could fill them with tenants. He to-day has his buildings constructed in accordance with the most approved principles of modern architecture uses the best and most improved building material and he finds when his building is complete he can obtain tenants much more quickly and his building commands a much higher rental than the old and illy constructed buildings of former years. While the old-fashioned buildings are in many cases unoccupied, the buildings erected within the past few years with every modern convenience and built on the newest and approved plans of architecture are filled with first-class tenants and in many instances rented before entirely completed. In this issue,a number of illustrations are given of buildings erected by some of our leading architects, accompanied by a short biography.

These building show the various types of architecture of the city, in public buildings, residences and business blocks, each of them being models of their kind.

Percy and Hamilton.

G. W. Percy was born at Bath, Maine, July 5th, 1847. Having completed his education, in 1866 he entered the office of F. H. Fassett, architect, at Portland, Maine, after the great fire which had destroyed that city. Remaining there three years he removed to California in September, 1850, and located at Stockton where he practiced his profession until April, 1872, when he went to Chicago and entered into the employ of J. M. Van Osdell & Co., architects, of that city. He served with them during the busy years of rebuilding Chicago's burnt district until May, 1873, when he went to Boston, serving as Superintendent of Construction for Bradlee & Winslow.

In September, 1875, he returned to California and opened an office in this city, doing business alone until January, 1880, when he entered into partnership with F. F. Hamilton under the present firm name.

F F. Hamilton was born in Addison Maine, in 1851. He studied his profession under Professor Hammitt Billings, a prominent architect of Boston, entering his office in 1867, and also served with several other prominent architects of that city until 1872 when he formed a partnership with J. B. Samuels, the firm being J. B. Samuels and F. F. Hamilton. They were the architects for several prominent buildings and erected numerous churches in Boston and vicinity. In September, 1875, he came to California and located in this city, being employed upon the new City Hall for three years. In 1878 he took a trip East, returning here again in 1879, and in 1880 formed the present partnership.

Among the prominent buildings erected by this firm are the State Insane Asylum Buildings at Stockton, Masonic Hall, Sperry Flouring Mill, Crown Flour Mills, all at Stockton. The Academy of Sciences (illustrated in this number), the Children's Play House at Golden Gate Park, new First Unitarian Church, corner of Franklin and Geary, Hayward's Apartment House on Larkin street, opposite the new City Hall, Hayward's Block on Sutter above Kearny, the Omnibus Cable Co.'s new car house corner Tenth and Howard, the engine house of the same company on Oak and Broadway, the largest of its character in this city, the buildings of the California Electric Light Company on Townsend and Clarence place and on Stevenson street; the Cunningham Building corner of Second and Stevenson, A. Hayward's magnificent residence at San Mateo, and numerous others in this city and different parts of the State.

Wm. Mooser.

The subject of this article is one of the oldest and best known architects in San Francisco.

He is a native of Switzerland, but came to California at the age of twenty years, arriving here in 1854. One of his first ventures in this country was his employment at the Navy Yard, in designing naval structures, and he has ever since been connected with the building interests of this city, Sacramento and Virginia City, at which latter city he erected the first brick buildings of any importance, such as the M. E. Church, Medine's Block, Wood & Wilson's and Wells, Fargo & Co., buildings.

From Virginia City, Mr. Mooser came back to San Francisco where he has been established ever since and in which place he has erected a large number of private and public buildings. In 1861, he with several other architects founded the San Francisco Architectural Society, and he is to day with the exception of one, the only charter member still actively engaged in the profession. Some of the most important buildings erected under his supervision, are as follows; The Metropolitan Temple, illustrated in this number, K. of P. and Pioneer bnildings and Veranda Block, now in course of construction.

At Rutherford station, Mr. Mooser displayed his ability in constructing the famous cellars for The "Inglenook" Vineyard, for G. Niebaum, they being the first of their kind on the Pacific coast constructed almost entirely of concrete.

A. J. Barnett

Was born in St. Louis, Missouri, in 1853, and learned his profession with his father, G. R. Barnett, a prominent architect of St. Louis. He first came to this city in 1874, practiced here awhile, and then went to Chicago, being there associated with A. H. Piquenard, returning to his native city in 1882. He entered into partnership with his father, the firm becoming Barnett & Son, and while there was the architect for several prominent buildings. Finding the western country a better field for his talents he left for Portland, Oregon, and finally came to this city in 1883, since which time he has practiced here continually.

Among the many buildings built by him we mention the following: Oriel block, corner Market and Franklin; Green Valley Stables on Mission and Fifth, the largest livery stable in the city; the residences of Frank P. Dow, Laguna and California; F. T. Black, corner Page and Webster; E. W. Joy, Van Ness Avenue; E. Goggin, Van Ness and Jackson; Simons, Jacobs & Co.'s block a Merced, Cal.; a number of flats for D. W. Parkhurst; the Van Winkle lodging house, corner Turk and Jones; two residences for James P. Dunn at Leavenworth and Jackson; and the Oriel row of thirteen houses on Haight between Webster and Buchanan, of which we give an illustration. This row of houses has the distinctive architectural feature of each house differing from the other in design, no two being alike, the whole still harmonizing, and differ from most houses in not having the long flight of stairs so prevalent here. Each is an e.even-room house, and so arranged as to admit the sun in all the principal rooms. The row is a very handsome one, and reflects great credit on Mr. Barnett's abilities as an architect.

John M. Curtis,

The well-known architect, was born in 1852 at Warsaw, Illinois. At an early age he was left an orphan and thrown upon his own resources. He evinced great mechanical genius and entered into service with Bent & Garrity, builders and contractors, of St. Louis, Mo, After serving with them he entered the office of Mitchell & Brady, architects, of St. Louis, and studied the profes-

sion of architecture, remaining there until 1874, when he came to California and located in this city where he has remained in active practice ever since.

While he has been here, he has been closely identified as superintendant, builder, and assistant or chief architect of a great number of our largest and finest buildings.

He was assistant architect of the Baldwin Hotel and Theatre; supervising architect of the new City Hall and architect of the Santa Rosa, Sonoma county, Court House; the Mutual Relief building of Petaluma; Santa Cruz county buildings and jail; Wells & Fargo's new building on Folsom near Serond street; the handsome new winery erected by Boyd & Davis, to be occupied by Kohler & Frohling (illustrated in this number) and many other prominent buildings and residences of this city and surroundnig points.

He is a member of the San Francisco Chapter American Institute of Architects, Treasurer of the Pacific Coast Chapter of American Institute, member of the Technical Society of the Pacific Coast, and has gained a high reputation in his chosen profession.

Salfield & Kohlberg.

David Salfield was born at Keysboard, Illinois, in 1861. When but six years of age he removed with his parents to Germany and received his education in that country. He studied his profession in the various architectural schools of Germany, and in 1880 came to California locating in San Francisco. He served as draughtsman for four years with several architects of this city and then formed a partnership with Emil John, the firm becoming Salfield & John which lasted one year. He then practiced alone a year when the present partnership was formed.

Herman Kohlberg was born at Beverungen, Westphalia, Germany, in 1855. After graduating at the High school of Lippstadt, Westphalia, he attended the Polytechnical High school of Brunswick, near Hanover, taking a three years course. He practiced his profession for several years in southern Germany until 1882 in which year he came to the United States. He served in New York city for one year and then came to this city in 1883.

For two years he held business connections with several architects of this city and in 1885 formed the present partnership with D. Salfield. The firm are the architects for quite a number of fine buildings, notable among which are the following: Rosenthal building, of which an illustration is given in this number, the Rosenbaum building, corner of California and Front streets, Hackmeier's Hotel, J. Carstensen's bnilding, 29th and Dolores, Simon Siegel's row of dwellings, five residences for James B. Hall, a fine business building for G. Woerz on Geary street, business house for A. Marx, Klose & Hillenbrand's Hotel, on Valencia street, B. Miller's flats on Post near Larkin, Victor R. Ulman's residence on Clay street, business house and flats for Dr. Abrams on Hayes street and others in various parts of the city. They received the premium for the design of the Court House at Stockton and are the architects for the jail in that city.

Charles I. Havens

Was born on Long Island, N. Y., in 1849, and came to California in 1856, locating in San Francisco. He entered the office of S. C. Bugbee & Son in 1864 and learned the profession of architecture, serving as draughtsman with them for five years. After that he was connected with John P. Gaynor two years and was with P. R. Schmitd for nine years more, entering into partnership with him in 1881, the firm becoming Schmidt & Havens, which continued for five years. During this time they erected numerous prominent buildings in this city and different portions of the State, among which were The Fulton, corner of Fulton and Larkin streets, The Longworth on Geary, the Haines' residence at San Mateo, the De Lavega residence, Geary street, D. N. Walters' residence, corner Sacramento street and Van Ness avenue, and others

On January 1st, 1886, he commenced business for himselt, since which time he has been practicing alone.

He has been the architect of some of our largest and most prominent buildings, notable among which are the following: The Carroll block, on Turk and Laguna, costing $45,000; the Hayward residence, corner of Baker and Hayes streets, $25,000; the Gualala Mill Co. building on Steuart street, running through to East street, south of Market, $45,000; H. C. Talbot's residence at San Leandro, $30,000; the Golden Gate Livery Stable, on Golden Gate avenue (illustrated in this number), $80,000; J. J. Wells' residence, corner of Pacific and Steiner streets; Palmer block, on Mission, between Eleventh and Twelfth streets, $25,000; and numerons others of like character.

He is a member of the San Francisco Chapter, American Institute of Architects, and ranks among the highest in the profession.

Henry Geilfuss

Was born in Thurin, Germany, in 1850, and studied his profession in Erfurt, Weimar and Berlin in the different architectural schools of those cities. While in Berlin and Schlessing he practiced his profession principally under railroad officials in constructing bridges and heavy masonry, thus seeing considerable work and thoroughly preparing him for his future career. In 1876 he left his native country, arriving in this city in the same year, where he has been in active practice ever since, working as draughtsman the first two years. Since he has been in business for himself he has been the architect for some of the best buildings erected here. Among the most prominent are the following: Kohler & Van Bergen's Winery on 3d street between Brannan and Townsend, the Wm. Tell House, Bush steet; the U. S. Brewery; the Zwieg residence, corner of Howard and 23d streets; Vanlag residence on Howard, between 16th and 17th; W. Westerfelt residence, Fulton and Scott streets; John Cook's, Howard, between 20th and 21st; Sam. Steiner's residence on Eddy, between Franklin and Gough; the three-story brick building for stores and lodgings for John Van Bergen, corner 3d and Harrison which we illustrate, and many others.

Reid Bros.

Have been located in this city but a short time and consequently have not been identified with her architectural development. They have an enviable reputation in Chicago, Evansville and San Diego, where they have erected numerous buildings which reflect great credit upon their ability as architects.

The Coronado Hotel at Coronado Beach, which is illustrated in this number, is a monument to their architectural ability and is acknowledged as one of the finest hotels in the country.

Slate.

The material to be used for the roofs of buildings is an important item in their construction, as regards durability and resistance to fire.

Slate is gradually and deservedly taking precedence over all other materials for roofing purposes, as it will generally outlast the life of any building; it never requires painting, is a perfect resistance to fire, is storm proof, and imparts much warmth to any building covered with it.

The first cost is only nominally greater than shingles or other destructible material used, and it will outlast any other material fifty to one hundred years, being almost indestructable.

Another advantage of slate roofing is its handsome appearance, as noticed on the fine buildings in eastern cities, where it is almost universally used, besides requiring no painting or repairs, as a roof constructed of slate lasts for years, and therefore is far more economical in the end than the use of material formerly in vogue here.

The California Slate Company, whose offices are located at No. 9 Mission street, are prepared to furnish a superior quality of slate for roofing purposes in any quantities to suit.

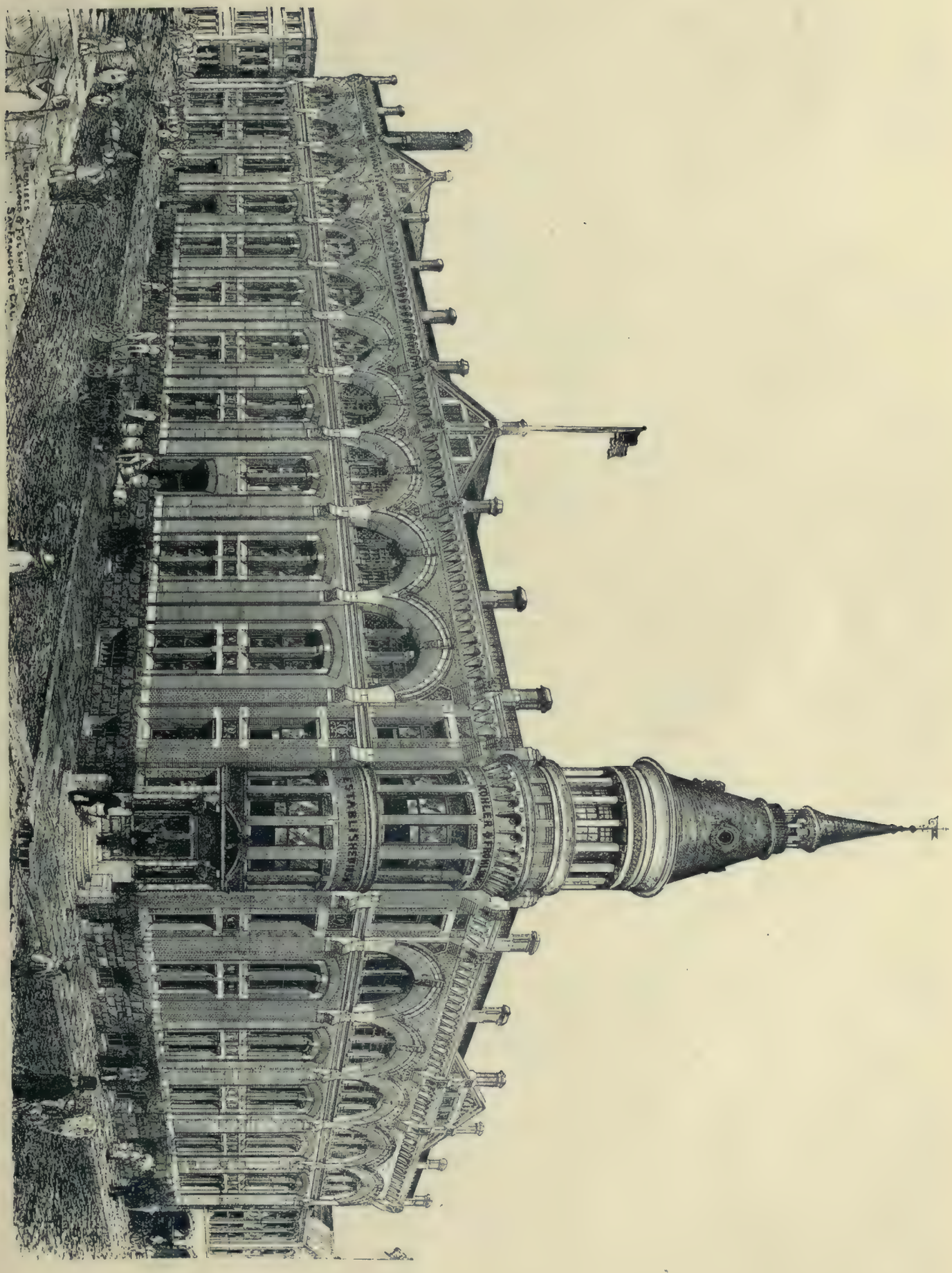
Their quarries are located in El Dorado county, and expert architects pronounce the quality second to none, and generally better than any produced in the eastern states or Europe.

They are enabled to furnish any sizes that may be required of an average thickness of three-eighths of an inch. The color is a rich blue black, of fine grain and unusually smooth surface, which imparts to any building a graceful and handsome appearance.

Besides roofing this slate can be used for mantles, sidewalk tiles and general building purposes, and can be quarried large and thick enough for billiard table tops. It admits of a fine polish, and is withal a valuable addition to our building material.

Samples of this company's product can be seen at the Mechanics' Institute Fair, and at their office No. 9 Mission street, and parties contemplating building will do well to inspect this material, as they will be convinced of its superiority for roofing purposes.

THE photo-engravings used in illustrating this number were made by the Globe Photo-Engraving Co., 419 Sacramento street. This is a new concern and is doing some excellent work.



Premises at Second & Folsom Streets.

JOHN M. CURTIS, ARCHITECT.

Furniture, Carpets and Upholstery.

The question how to furnish a house after it leaves the architect's or builder's hands is an all importrnt one. What kind of carpets are suitable for this room, and what color or pattern for that; what style of furniture for the parlor, bedroom, library, dining room. etc.; and the kind of draperies, decorations, etc., suitable for each separate room.

The furniture and carpets of to-day differ very materially from the kind in use here in our early history. Then the plain sanded or plain board floor was the only carpet, and the furniture of the very cheapest kind. With the advance of civilization and the rapid growth of this city in wealth and refinement came the demand for the luxuries of eastern cities, and we find to-day as elegantly furnished mansions, supplied by the merchant firms in our midst, as in any city in the country. It is no longer necessary to send to the eastern points for the latest designs in carpets, furniture or upholstery, for our own dealers in these lines carry as large and complete stocks of such goods as any simllar houses in the east.

The styles in furniture change with every year, each era having some particular fancy, thus the designs are continuously changing from the heavy massive pieces of former years to the elaborately carved, and then again to the delicately fashioned style of a century or so ago.

The furniture of to-day is of a severe and austere pattern, differing entirely from the ornamental and elaborate designs formerly in vogue, making quite a radical change, and withal has an elegant, substantial and luxuriant appearance.

As in design so does the style in the woods change, and the most fashionable and latest to-day is furniture of oak or antique oak, although the rich mahogany cherry and walnut are still called for. So in carpets, window shades, draperies and other decorations, each season brings new changes and designs, and richer material requiring the ingenuity and experienced taste of the artist to decide which is the most suitable for the correct furnishing of the several rooms. In eastern cities the furnishing of a modern residence is given into the hands of some well-known furnisher, who has *carte blanche* to use his skill and artistic taste in the complete furnishing of the parlors, library, bedrooms, dining rooms, etc., with some passing suggestions from the owner, and invariably when complete the house is better furnished, everything harmonizing more than it the different furnishings and decorations were supplied by so many different firms.

Such a firm carrying a stock of goods to furnish a house complete is the well-known firm of W. & J. Sloane & Co., 641 to 647 Market street. The structure occupied by them is one of our modern business buildings, equipped with every convenience and arranged so as to display their elegant stock to the best advantage.

Their stock of furniture in parlor, bedroom, library and dining-room sets is varied and handsome, every factory in the country being placed under requisition and their choicest productions chosen. The firm aims always to have the very latest and newest designs in the market, and are giving our residents here the most modern goods as soon as produced in eastern points. They also manufacture furniture to order and furnish original designs.

In carpets their stock is also most complete, embracing English and American Wiltons, Axministers and other kinds of all grades, from the cheapest to the most expensive. W. & J. Sloane & Co. are sole agents for Alex. Smith & Son's Co. of Yonkers, N. Y., American Moquettes. These carpets for beauty of design and durability cannot be excelled by any fabric, and are superior to many imported articles of a similar kind. In window shades, curtains, tapestries and upholstery goods the house has a most elegant selection of every shade and design; all departments in charge of experienced artists. The firm have furnished many of our leading residences and hotels, among which are the following:

The Palace Hotel furnished by them when opened with carpets throughout, the Baldwin Hotel and Theatre, the new California Theatre, the Hotel Del Monte with carpets and upholstery, and all the carpets for the Hotel Rafael, and the Stanford house at Palo Alto.

The firm always aim to give their patrons the very best and latest things in the market, and have won an enviable reputation in their particular line.

The attention of the public is called to the fine exhibit of the firm at the Mechanics' fair, where three interiors of parlor, dining-room and chamber are shown.

Lumber and Building Materials.

The resources of the Pacific Coast in lumber are almost inexhaustible, for nearly all the varieties of wood grow throughout the different sections of the country, so that taken as a whole this quarter of the United States certainly is better supplied with lumber for the various uses than any other portion of the land. Lumber forms an important factor in the building interest, for no building is erected except that lumber enters into the construction in some form or other.

The lumber to be used in a building shou'd be, first of all, of good quality and well seasoned. Certainly no State in this country has finer qualities of lumber or a climate better adapted to the thorough seasoning of it than our own State of Californla.

Of the different kinds of lumber, redwood, of course, is more commonly used than any other. Our redwood forests are the wonder of the world, and millions of feet are annually cut for this and other markets. It certainly is the best building material of wood we have; and besides its other numerous good qualities it burns slower than most any wood used in the construction of houses, necessarily making it a very valuable item in the erection of fronts of buildings, since its slowness to burn is the protection from fire.

It is also used for inside finish of buildings, admitting of ornamentation and polish for doors, panel work, wainscoting and other uses throughout the building.

Sugar pine on account of its scarcity in comparison with redwood—white pine, yellow pine, etc., is the highest price lumber for building material. It is stronger than redwood, has a fine grain, is free from pitch, and is used principally for doors, blinds, sash, etc.

The Curly and Burhl redwoods are two of the handsomest woods of our native forests, and are growing more and more popular, not only here but in Eastern and even foreign markets.

The curly redwood is obtained when milling, from the stump or first log in the tree, and runs from three to fifteen feet in diameter. It admits of high polish and has a very beautiful grain, curly as the name indicates, showing the tracery of fern leaves and heads of animals. This wood is being extensieely used for interior finish, for panels in doors, counter tops, table tops, and all kinds of bedroom and parlor furniture.

Burhl redwood comes in round or oval pieces, from two to three feet in diameter, and is also a valuable addition to our fancy woods.

A firm making a specialty of this kind of lumber is Starbird & Goldstone, located on the corner of Market and Spear streets. This company was established in 1872 and has been prominently identified with the lumber and building interests of our city ever since. They are wholesale and retail dealers in all kinds of lumber and building materials, making a specialty of sugar pine and also of Curly and Buhrhl redwood for Eastern shipment. Besides these they carry a full and complete stock of building material, such as lath, shingles, etc., and dry dunnage for ships.

They solicit the trade of the builders of this city and the coast, and ship largely to Eastern and foreign points.

They have supplied a large number of houses with their lumber and have lately shipped 75,000 feet to Liverpool and 50,000 feet to London of Curly redwood and Burhl, which are prized very highly there and are rapidly superceding other fancy woods. In this city these woods have been used quite frequently in some of our prominent residences, notably in W. T. Coleman's, corner of Fillmore and Pacific streets, for panneling in the halls and library.

Owners and contractors would do well to make a more liberal use of these handsome native woods in the finish of their own buildings than they have heretofore—thereby encouraging our home industries in this branch of industry as well as in others.

Hoop Clamps for Large Tanks.

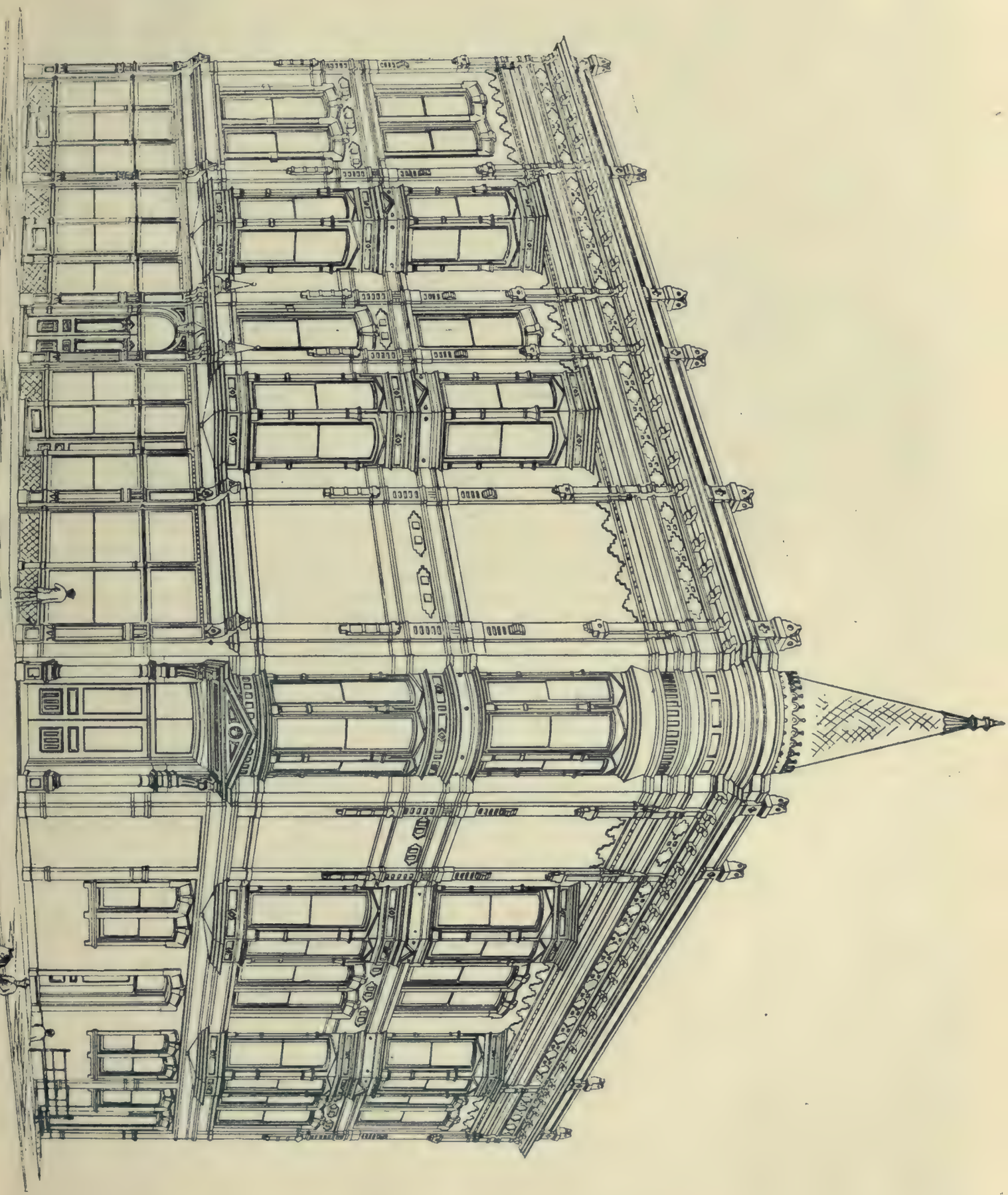
The invention of Mr. Asa R. Wells, which is illustrated in this number, supplies a great want, particularly in dry and hot climates; where shrinkage of lumber is considerable.

No devise heretofore in use for tightening hoops has been satisfactory, for the reason that the draft was not straight and therefore not direct on the hoops.

The advantage of a clamp hoop over a riveted hoop, particularly in heavy bands for large tank work, must be apparent to all.

To tighten a riveted hoop requires tools, scaffolding and capable men. It also mars the paint and injures the iron. To tighten with a clamp, working freely, requires simply a ladder and a wrench in the hands of anybody.

Mechanically considered, the device may be described as a right-and left draw buckle, acting on ball and socket joints. It therefore works equally free, powerfully and effectually on long or short draft and on large or small circles. Practically considered, this device has proved a great success. By its use Wells, Russell & Co. have set up some tanks as large as 36 feet in diameter, which are perfectly water-tight.



JOHN VAN BERGEN'S Block—Third & Harrison.

H. GEILFUSS, ARCHITECT.

Window Glass.

One of the most important items which enters into the construction of a building is glass, both plain and ornamental, and consequently in the letting out of contracts builders should certainly see that the very best kind obtainable is to be used. Nothing adds so much to the appearance of a building as clear, transparent window glass, and tenants certainly appreciate rooms which have windows of clear and perfect glass. The facilities for obtaining the best glass manufactured, are as great in this city as in any city in the country, and there is therefore no excuse for not taking advantage of the opportunity offered and using first-class material, which is certainly the most economical in the end.

The establishment of Fr. H. Rosenbaum is one of the oldest and most reliable in the city in this branch of manufacture, having been established in 1862, being then located on Sacramento street near Front. In 1864 he removed to Battery street near Washington, but quarters being too small another removal was made in 1868 to his present location, 567 Market street.

The premises occupied consist of three floors 30x170 feet in dimensions, with an additional warehouse on Stevenson street in the rear 50x100 feet.

A large and complete stock is constantly carried, consisting of French, German and English plate glass, window glass, mirrors and looking glass plates, rough plates for sidewalks, corrugated glass for skylights, colored, enameled, cathedral and prismatic glass in all desired sizes.

On the second floor is located the factory, which some six months ago was enlarged and thoroughly equipped with the latest and most improved machinery for silvering, beveling, ornamental cutting, grinding, embossing and crystallizing glass.

Skilled mechanics are employed in all the various departments, and orders are filled promptly and on very short notice. Estimates are furnished on all contracts on parlor and bar room mirrors of all kinds.

Among the prominent buildings furnished by this house we mention the following, which give evidence of artistic and first-class workmanship:

The First National Bank building, with crystallized, beveled and ornamental glass; the Meyer residence, California and Gough streets; A. D. Moore's residence, Pacific avenue and Deviseadero street; J. A. Hooper's residence, Laguna and Washington streets; the Mareschal Neil House, corner Ellis and Jones streets; the Collins residence, corner Alice and Durant, Oakland; A. D. French's residence, East Oakland, Mr. Hanson's residence, Redwood City; M. Rosenbaum's building, now in course of construction, corner of California and Front; the Bancroft History building, Market street, McDonough Block in Oakland; Capt. Niebaum's villa in Inglewood, Napa county, and many others.

Mirrors from this establishment adorn the walls of some of our most pallatial homes, and massive plate glass windows which add so much to attractiveness of stores owe their introduction in a great measure to the enterprise of this pushing firm.

Wire and Iron Fencing and Ornamental Work.

Wire and iron are rapidly superceding wood in most cases where used for ornamental purposes, such as fencing, railing, roof cresting, etc. The uses wire and iron can be put to are innumerable, and from being the more durable admits of more ornamentation than wood for the purposes used. Wire and iron are used for fencing, for houses, stair railing, divisions, floor rails, desk and counter railings, panels of elevators, elevator guards, skylight guards, for protection against fire and breakage of glass, for the covering of basement windows, gallery fencing, stores and other numerous uses.

Wire fencing, and more especially iron fencing, is rapidly taking the place of the old wooden fencing formerly used, and is a vast improvement. It is highly ornamental and durable, being almost indestructable and the more economical.

In iron fencing there are constantly new designs being manufactured, the variety being without limit, as the wire can be twisted by the new machinery now in use into any shape or design imaginable

The wire works of D. D. Wass, 141 and 143 First street, are the largest in this line on the coast and were established in 1884. The works have been enlarged to accommodate Mr. Wass' increased business and are thoroughly equipped with all modern appliances and machinery for the manufacture of his various specialties and products, besides constantly supplied with new machinery as the occasion demands. He gives employment to a large force of hands and is prepared to manufacture on short notice all kinds of wrought iron and wire fencing, roof crestings and finials, wire window guards, gates, skylight guard work, desk, counter, bank and office railing, ornamental brass work, gas-pipe rail, show window fixtures, coal and sand screens, founders' riddles, spark guards and fenders, and also light ornamental wrought iron work.

He also makes a specialty of all kinds of artistic brass and nickel-plated work in the shape of gates and wickets. Mr. Wass has filled a large number of contracts and furnished the wire and ornamental iron work on a great number of buildings in this city and in various parts of the State. He has just finished all the wire work on the new cruiser "Charleston," consisting of some 300 mess and clothes lockers, wired the same vessel for an electric bell system, furnished the wire work for the bank of Hanford, Cal., consisting of counter railings, wickets, partition work, doors, etc., also the elevator work in the Walters' building, Sullivan estate building on Bush street, Huntington & Hopkins building, Golden Rule Bazaar, and has the contract for furnishing the new Asylum building at Agnews with wire window guards, besides other numerous and extensive contracts.

Parties desiring work of this nature will do well to call upon D. D. Wass and examine the class of work turned out in his establishment.

Hot Water Heating.

The old idea that we need no artificial heat in our houses in California has long since been exploded, and it is no longer a question of *shall we heat*, but HOW shall we heat our houses. The open grate or fireplace, the store and hot air furnace systems have long been used on this coast. Laterly the steam and hot water systems have been conspicuously brought forward and are becoming more popular and general in their use. For private residences the hot water is the best, giving a mild equiable temperature superior to the stove hot air furnace or the steam systems; and where it has been properly constructed, for comfort, economy and healthfulness, it has no equal. Two things are requisite herein to its success:

First—The apparatus must be adapted to the wants of this coast, and herein the fuel, the water and climate must be considered.

Second—The system requires more care, judgment and skill in its construction to ensure success than either of the other systems, for unless the circulation be perfect and the distribution well balanced the system will be faulty and undesirable, the heat slow and unequally distributed, and the consumption of fuel unnecessarily increased.

This skill and judgment is obtained only by experience. The principle of the hot water circulation is entirely unlike that of steam. Neither the steam fitter, the plumber, nor the hot air furnace men have any practical experience adapting them for this work. *It is a trade by itself*, and the plumber or hot air furnace agent who contracts to put up a hot water apparatus generally experiments at the expense of the owner of the building.

The hot water system was introduced on this coast eleven years ago by C. D. Harvey, who brought from the eastern states the latest and most desirable appliances then in use for the hot water warming of houses.

It soon became apparent that the different climate of the Pacific coast, the different fuel and the different surroundings required a different form from those used in the eastern states, where continuous and strong fires are maintained from early fall until late spring.

The hard coal burners were illy adapted to the soft bituminous coal used here, and the impure water of San Francisco and Oakland required a different construction of heater. Eleven years of practical labor and observation in this work has enabled the industrious inventor to detect and obviate many of the objectionable features of the eastern apparatus for our California trade, and in the face of strong competition to establish another local industry on our coast.

The reputation of the *Harvey hot water heater* was no sooner established than the eastern houses flooded the market with their same discarded goods, operating through local agents who have recently, and with little or no experience in this system except such as has been acquired in the general plumbing trade, become the advocates of the hot water system.

The first heater introduced by Mr. Harvey was formed by a series of flat cast iron plates, or water chambers, placed horizontally over the fire-box in stacks, around and through which the fire passed in its course to the chimney.

Hotel Del Coronado, Coronado Beach. REID BROS. ARCHITECTS.

This was economical in fuel, quick to heat and satisfactory for the first few months. Soon however the *sediment* from the water was deposited within these sections, making the fire less effective and the deposit increasing. The lower section nearest the fire cracked or burned out after three or four years' service, so their removal became a necessity.

Next the form of the casting from a flat to a curved surface was adopted, using return flues and providing for the deposit of sediment below the direct fire surface.

This form lasted longer, but the same results followed though less frequent. It was therefore apparent that the cast iron surfaces could not be relied upon, where the heating and cooling of the surfaces followed in such frequent succession as in our climate. The iron becoming crystalized was bound sooner or later to crack.

Next the tubular heater, constructed of two-inch wrought iron pipe, containing a smaller pipe inside to secure a circulation, was used. By this heater the tendency to crack was obviated, but the deposit of sediment and the increased friction retarding the circulation between the two pipes, after a short trial, stamped this as only a partial success.

Three years of experience and study have demonstrated that the successful hot water heater for the Pacific Coast must be accessable in all its parts, within the water chambers as well as upon the few surfaces outside. The removal of the sediment inside the heater is quite as important as the cleaning of the soot from the outside surface. While both are non-conductors of heat and cause a needless waste of fuel, the sediment will cause the cast iron to crack and the wrought iron to burn out and will also retard the circulation by causing unnecessary friction within the pipes and chambers.

All the different forms of heater above described, or heaters constructed upon similar plans, are extensively advertised on this coast by Eastern houses through local agents with no practical experience with these goods.

The flat cast iron sections or stacks over the fire-box, as well as the telescoped pipe heaters in their various forms, will all repeat the same results over again and the purchasers will pay for the experiment while the agents, unconcerned and unconscious of the inevitable result, continues to advocate, advertise and sell the same.

"Where ignorance is bliss 'tis folly to be wise," especially if the purchaser pays the price and the agent pockets the profit.

The hot water system is undoubtedly superior to any other if properly constructed, and no greater mistake can be made than to suppose that a plumber or other pipe fitter can satisfactorily plan and construct this work, relying upon Eastern appliances and Eastern plans where practical experience is lacking.

Mr. Harvey has invented and manufactures a wrought iron tubular heater so constructed that every part inside and outside can be reached and cleaned, and any tube can be removed and replaced with a new one without disconnecting the heater or disturbing the brick work or sending to the factory for a duplicate section in case of a crack or defect, as would be necessary with an Eastern heater. Mr. Harvey has also the exclusive agency for the celebrated Bundy Hot Water and Steam Radiator, including the New Elite, which he uses in his local business or furnishes to the trade. This radiator is used more extensively than any other, over 11,000,000 square feet now being in use, and are made in a greater variety of forms than any other manufactured.

Mr. Harvey is doing exclusively a hot water and steam heater business, using the best material, the latest devises and doing only first class work which his eleven years experience will corroborate. His connection with the Griffling Iron Co., the largest manufacturing firm of hot water and steam heating radiators in the United States, ensuring him the latest, best and most improved appliances from the East in connection with his own inventions here.

Elevators.

The building of elevators has shown as much progress and improvement as any other of the conveniences of the modern building of to day, and a building without a first-class elevator is as much a novelty as one in former years was with one. The old rope hand hoist first in use, gave way to the friction clutch hand hoist, which is still in use in some buildings for freight purposes, but is being replaced by the more modern elevators now being almost universally erected in all first-class buildings.

In passenger elevators, the old style horizontal cylinder hoist has many disadvantages and is a very dangerous machine. It has a large and small drum and a coil continually revolving around two small drums, causing it to crack and break, and of a necessity the cage must fall, depending entirely upon what precaution is taken to prevent or stop its rapid descent.

Another disadvantage in these elevators has been to use only one main rope for the cage and two or more drum ropes. This machine, which is called a pull machine, is so constructed that the water enters on the rod side of the piston, which makes it very dangerous, for should the piston rod corrode from the action of the water, or become fractured by use, which often happens, the cage drops and endangers life and limb. There can be no question, that as compared with other large cities in this country, we are behind the times in making compulsory provisions for the safety of our citizens, and steps should be taken to compel the use of the best and most improved appliances in elevators that insure absolute safety to our citizens.

Undoubtedly the safest protection against accident is the Safety Air Cushion and Air Brake attachment supplied by the Ellithorpe Air Brake Company, of which the firm of Wm. H. Birch & Co., 119 Beale street, of this city, are the sole agents and manufacturers on this coast.

This air cushion, which can be built in in any elevator now in use, is simplicity itself; there is absolutely nothing to get out of order or to cause death or accident through inattention or neglect; there are no springs to rust or wheels to oil or other contrivance to manipulate. The cushion has been tested all over he country, both intentionally and unintentionally, and never when the cab has been started, even from tho top of the highest buildings, has an egg been broken, a glass of water spilled or the smallest damage happened. This air cushion is not a contrivance to stop the cab in transit. If the cable breaks or the cab starts on its fearful fall, it is allowed to go, but as it approaches the bottom it is gradually and safely brought to a halt by a scientific application of air caused by its own velocity, and this without jar or commotion of any kind.

The two safety devices known as the Ellithorpe Air Brake and the Ellithorpe Air Cushion have stood the tests of hundreds of the most severe and practical trials, and in no single instance have they failed to operate successfully. The air brake is simple and easily applied. It operates upon a different principle from the air cushion. The air brake while operated by means of compressed air prevents the cab from falling more than a few feet, stopping it gradually without the slightest concussion, the effect produced being precisely the same as applying the Westinghouse brake to a train of cars while under a high rate of speed.

There can no longer be any excuse for loss of life from the falling of elevator cabs, for it has been fully and practically demonstrated that either the air cushion or air brake will effectually remedy this great danger.

Wm. H. Birch & Co., 119 Beale street, the agents for this important invention, have placed them in the following buildings: The Pacific Union Clbb, the Hillsdale house on Sixth and Jessie, two in the Rosenthal building on Market street, the Marechal Neil house corner Ellis and Jones, First National Bank building, New City Hall, this city, and the Fresno Savings and Loan Society building, Fresno, all of which have been placed since November last and successfully dropped. The latest trial was in the Pleasanton Hotel where the apparatus was tested in the presence of all the guests, the cage having been dropped ninety-four feet; and also the New City Hall elevator in the presence of the mayor of the city and other officials.

Patent Chimneys.

The kind of chimneys to be used, in the construction of a building, is and should be an important item with the architect, contractor or owner of the building to be erected for upon it depends to a great extent the security of the building from fire and withal the comfort of the tenant.

Great improvements have been made in the building of chimneys. The old style brick ones which were brought up from the basement to the roof have been supplanted by the introduction of the patent modern ones which are now used almost exclusively in all modern buildings.

J. Browell, No. 727 Montgomery street, is the owner and patentee of Browell's Patent Chimneys, which have been endorsed by the Board of Supervisors and approved and recommended by the Fire Wardens, Insurance Companies and leading architects throughout the state generally.

This chimney is constructed on the inside of terra cotta of the very finest fire clay, and has an outside lining of galvanized iron with an air space from the bottom to the top above the roof, while most other patent chimneys are perforated with holes, thereby sending all the hot air though the building, having no escape above the roof, thus making them a veritable hot air bed and consequently very dangerons.

In former years the pipe manufactured was of inferior quality, but now through years of experiments and experience, this inferiority has been overcome. The pipe used by Mr. Browell in the construction of his patent chimney is made of the very best terra cotta and is perfect in every respect, both as regards to safety from fire and to strength and lightness.

His chimney can be placed in any part of the house or attached to the outside of any building, being fastened to the building by means of iron rods or straps making them perfectly straight. The bands which are put around the meeting ends of the sections of pipe are carefully filled with cement on other fireproof substances, thereby making the chimney absolutely safe and there has never been an instance of fire through means of defective flues where his chimneys have been in use. These chimneys are also constructed in such a manner, that they can be readily used as heaters and ventilators and are unquestionably superior to anything of the kind invented in the United States. They are the only chimneys in which bands and fillings can be used to make a smoke and air tight joint, and in which iron rods or straps can be used for fastening the chimney to a building, all others being infringments.

Mr. Browell is the patentee of five patents covering every improvement that can be made and the chimneys he is now using upon the various buildings in this city and vicinity are as near perfect as can be made. They can be shipped to any part of the country and put into position by any mechanic. Owners of builders should see to it that in specificatlons of their buildings, Browell's chimneys are specified and used,

In many instances where the Browell chimney is called for in the specifications, a cheaper and inferior chimney is often substituted and architects or owners should investigate more closely into such matters and see that the Browell chimneys are used in every instance. It would also be to the interest of the insurance companies to pay some attention to the kind of chimneys used on buildings upon which risks are taken.

While probably more expensive than other chimneys they are much cheaper in the end and save considerable future repairs and trouble.

These chimneys are in use upon the principal buildings of this city and vicinity, prominent among which are the residences of M. Hopkins, Senator Stanford, W. H. Crocker, the London and Paris Bank building, the Harbor Commissioners offices on the wharves, and are now being used upon the building erected by Henry Matthews, on Ellis, between Paul and Mason streets.

Artificial Stone Pavements.

In keeping with the general advance and progress of architecture has been the improvements of our streets and sidewalks.

From the time of uneven, unsightly decaying planks, with projecting nails, to the era of brick pavements covered with soft composition of almost as uneven and unsightly appearance as the former, to the handsome, hard and durable artificial stone pavements of the present day, our city has shown a gradual and steady advance.

A handsome modern sidewalk in front of a structure is as necessary to its general appearance as its interior finish, and owners of buildings, in order to add to the value of the same, can no more neglect this important feature than any other which goes towards adding to the comfort of its tenants.

No material for sidewalks is equal to first-class, well laid artificial stone. It is smooth, clean, hard and durable and the cheapest and most economical in the end, for when laid by honest and experienced contractors it will last a lifetime.

Low prices mean the use of poor materials, not only in pavements, but in everything else.

Golden Gate Avenue Block. CHARLES I. HAVENS, ARCHITECT.

When the Schillenger patent expired several years ago numerous parties rushed in with little or no knowledge of the business and took contracts to lay artificial stone pavements at almost any price they could get, and the natural consequence was that numerous property owners jumped at the chance of saving a few dollars and accepted their bids. The result is that these sidewalks are crumbling to pieces, many of which have been laid less than a year, while those laid by first class firms have stood the test of over ten years, the walks being as good as when first laid.

If property owners would consider that there is at the utmost but $20 difference between a first class job and a ten cent sidewalk, one lasting an ordinary lifetime and the other but a few years, surely there should be no hesitancy in choosing the better. It is wise to learn from others' mistakes, and the teachings from this experience is that a first class artificial stone sidewalk is undoubtedly the best and cheapest in the end, and the employment of only skilled and responsible contractors, whose work has shown its merit, should be given the contracts for laying the same. Let owners give the laying of sidewalks to responsible parties only and they will never regret the difference in cost.

Among the first class concerns engaged in this interest is the Gray Bros.' Artificial Stone Paving Co., established in 1881 and incorporated in 1889, with offices at 316 Montgromery street, this city, and branch offices at No. 1 South Fort street, Los Angeles, and 1506 Park street, Alameda. They have laid some of the best and handsomest sidewalks in the city and besides take contracts for concrete foundation work of all descriptions. They use none but the very best material, employing none but skilled and experienced workmen, of whom they have upwards of 150.

They import the very best cement direct from England and Germany and own their own vessels which transports the immense amounts of gravel used from the various beaches. All of their work is guaranteed for ten years and they do nothing but first class, honest and durable work. Among the numerous pavements laid by them are the walks of the Grand Hotel, those corner of California and Kearney streets, Bush and Montgomery, five blocks on Van Ness avenue, between Golden Gate avenue and Vallejo, the Nightengale Block on Haight street, around the residences of P. B. Coggswell, A. D. Moore, F. A. French, and numerous others in this city. Among their large contracts was $187,000 worth of work in Santa Monica, Colton and Riverside and five miles of walks in Alameda and San Rafael.

A BUILDING has just been completed in Columbus, Ohio, in which a novel and beautiful feature in architecture has been introduced. The front of the building has a medallion formed of pressed brick, the face chipped off, giving a surface that resembles rough-faced red sandstone. The brick, while equal in appearance to stone, will retain its beauty longer, as stone grows darker with time. Many architects and builders who have visited the building, express great admiration of the effect,

Pressed Brick and Terra Cotta.

While building has progressed rapidly on this coast during the last twenty years, it has been with an eye more to the immediate than future service.

The necessity of providing for a rapidly increasing population too often results in the construction of the cheapest structures possible, with an appearance of solidity which is merely a veneer of zinz and paint. But with an increase of wealth and in emulation of older cities, the more thoughtful and the really more economical of our people are impressed with the more enduring qualities of architectural construction. The architecture of a city usually corresponds with the character of its inhabitants.

There must necessarily be progression or decay and there is as much progression in the art of making bricks and terra cotta and in the style of them for building purposes as in anything else in the building interest.

The sun-dried adobes have given way to the common burned brick and they still are the cheapest and most durable of building material.

But the finish of the common brick is not as acceptible to the artistic sense as it might be and to cover its defects this city has cov ered the fronts of its buildings with mud in the vain attempt to make them resemble stone.

There has been some good excuse for this as the fine finished brick, such as Philadelphia, Baltimore and St. Louis produces have been too expensive to use on account of high freights, etc., and the material produced on this coast, heretofore, has been of a much inferior grade.

Matters are changing here now, new manufactories are in operations and builders need no longer send east for their fine pressed brick and terra cotta as these articles can now be obtained in better quality and at much cheaper rates at their doors.

The Union Pressed Brick & Terra Cotta Co., have just completed large and extensive works at Vallejo, with their general offices located in the Flood Building, room 31, in this city, and are turning out some of the finest work ever produced in America.

This material must be seen to be appreciated as nothing ar proaching it has been used in this city. The brick is being used in the Concordia Club building and is called for in the specifications of other buildings in the course of construction.

The machinery adopted by this company is of the latest improved patterns, which facilitates the making of brick and terra cotta of the finest quality at the lowest cost. The material used in the manufacture is free from alkali in any form and produces an article, which for color, uniformity of size, texture and strength is not excelled, if indeed equalled, in the world. The brick is of a deep rich, red color, with smooth, almost polished surface, firmer than granite, so homogeneous that it is easily cut, and so hard that it withstands a pressure of 16,000 pounds to the square inch. The terra cotta is of the same shade as the brick, and when struck with a hammer rings like steel. The modeling, which is done by one of the foremost artists in America, is beautiful in design and magnificent in execution. The excellence of the production of this company will be their chief advertisement, and the buiders of this coast are to be congratulated upon being able to procure such beautiful and durable material,

Fire Protection.

Protection against fire is and should be the first consideration of every owner and tenant of a building, and every precaution should be taken to use such contrivances as will extinguish fire in its incipiency with the least damage to building or stock.

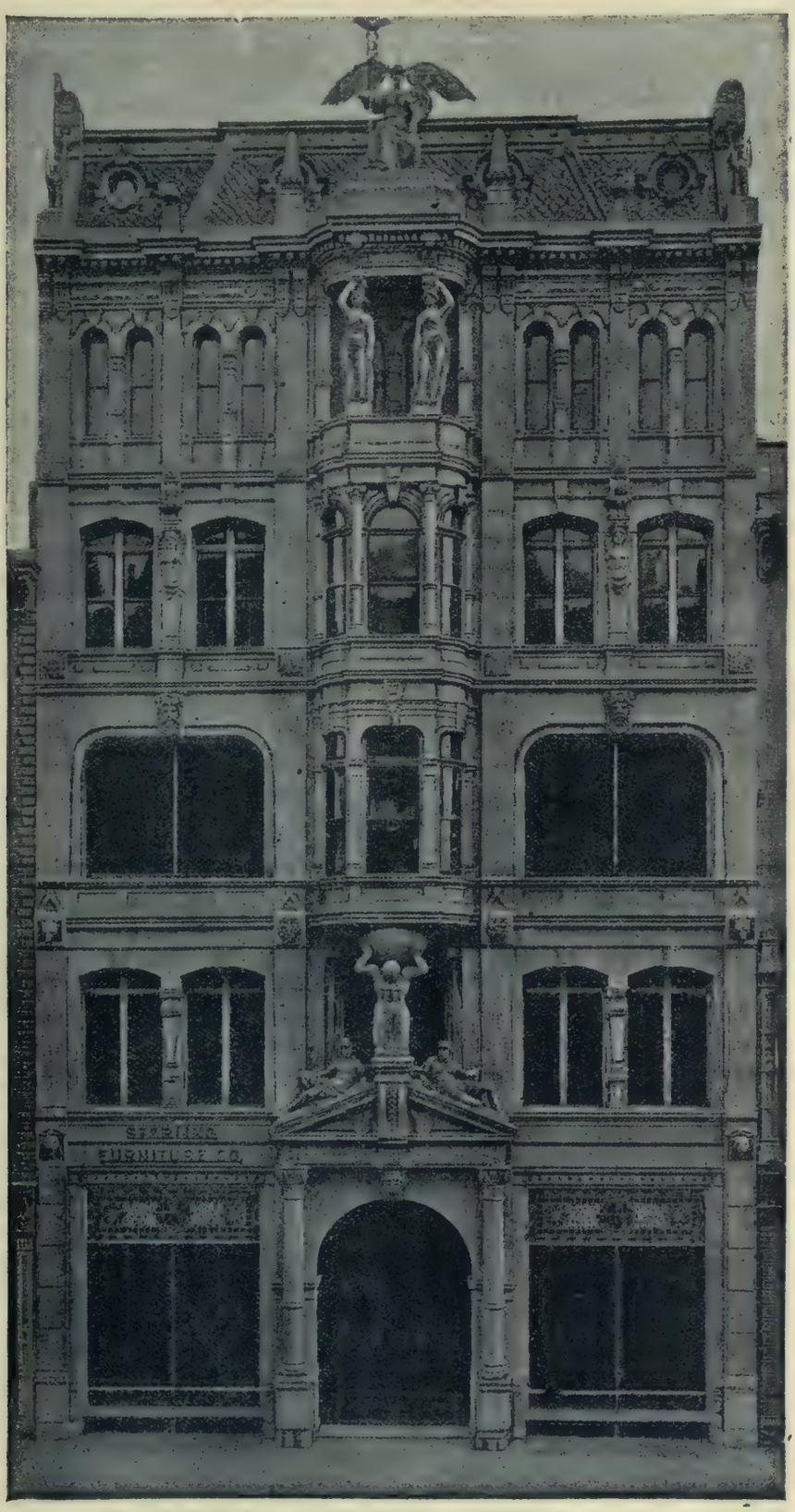
A piece of fire apparatus should be perfect in all its parts and if any part be defective the whole is defective. It should be simple in construction without any parts to get out of order and be ready for use at a seconds' notice. Such an apparatus meeting all these requirements is the "Paragon Hose Reel," of which W. T. Y. Schenck, 222 and 224 Market St., is the inventor and manufacturer.

This reel is designed for use in warehouses, public buildings, mills, manufactories, hotels, etc., and especially in buildings where there are times when only a watchman or a few persons are about. Quick and sure work is an absolute and fully recognized necessity for all inside fire protection; and by actual and repeated experiments by green hands, with this reel and hose, water has been turned on, 100 feet of hose pulled off, and a stream of water put on a fire in thirty seconds. It is permanently fastened to the wall, out of the way, supported by suitable brackets, and connected directly with the supply pipe through a hollow journal and packed joint, which allows the water to pass freely into the hose being connected to the hollow journal inside the reel and reeled up.

Upon the discovery of a fire the party present quickly turns on the water by the valve attached to the reel, takes the hose pipe and runs off towards the fire, the hose running off the reel freely, without a twist or kink, and the water following immediately, thus saving the very valuable time usually lost in straightening out the kinks and twists in the hose and in going back and turning the water on. This reel and hose are acknowledged by the Insurance Union to be the most perfect inside fire protection it is possible to procure and they so take them into consideration in fixing insurance rates.

The Paragon Hose reel is equipped with the Eureka Mill cotton hose, which does not deteriorate with age, does not break in the kinks, does not burst and is *always* reliable. It does not burn or melt when in close proximity to a flame or heat, nor break up in extreme cold weather as does rubber hose, but stands an immense pressure and any climate.

It is also fitted with the "Ne-Plus" full water couplings, which give full water way, are easily opened and do not leak. The value of this coupling will be seen when we remember that the ordinary coupling goes only two thirds of the capacity of the hose so that the hose used is equal, almost to a size larger hose than as ordinarily fitted. The Paragon Hose Reel has proved efficient in many instances and saved hundreds of thousands of dollars in many buildings where in use. A partial list of buildings, hotels, mills, factories, residences, warehouses, etc., where this most efficient apparatus is in use is appended: Firemen's Fund Insurance Co., Union Iron Works, Risdon Iron & Locomotive Works, H. S. Crocker & Co., American Biscuit Co., Schmidt Label & Lithographing Co., Rix & Firth, Phoenix Iron Works, Wells, Fargo Building, Market St. Cable R. R. Co., California Electric Light Co, S. P.



Rosenthal Building, Market St. SALFIELD & KOHLBERG. ARCHITECTS.

Co's General Offices, S. P. Co's Passenger Depot and Freight Sheds, The Oriel, The Pleasanton, California Theatre, San Francisco Laundry, 85, in the Hotel Coronado, Los Angeles in Bryson & Bonebrake block, Los Angeles Theatre, Kerckhoff, Cuzner M. & L. Co., at Fresno, Hughes Hotel and Fresno National Banks, 14 in the State Insane Asylum at Stockton, 44 at the Hotel Del Monte, Monterey, 12 at the Hotel El Carmelo, Pacific Grove, in the State Capitol Building at Sacramento, at the Soldiers' Home, Santa Monica, besides numerous buildings in Nevada, Washington, Arizona, Idaho, British Columbia, Alaska, Hawaiian Islands and Central America, where they have done good service and received high testimonials.

Hardwood Lumber.

The interior finish of buildings is to-day one of the first features considered by those who contemplate building first-class modern office buildings or houses for themselves. There are many things to consider in interior decorations and finish of buildings.

In office buildings, banks, theaters, hotels and other public buildings it is certainly to the interest of owners to use such finish as will attract the attention of tenants or visitors, thereby enhancing the value from various standpoints.

In residences it is highly important that the surroundings should be pleasing, which cannot be realized unless there is harmony in those things which the eye must see—and the decorations and interior finish should be suitable for the respective rooms.

Nothing admits of a handsomer finish in buildings than the use of hardwoods, be they either mahogany, oak, ash, black walnut, cherry or maple, according to the taste of the owner, each of which admit of a high finish or elaborate carving. Besides the fine finish and elegant appearance the use of hardwood lends to the interior decoration of a building, is the solidity of appearance, elegance and durability that make it the most economical and cheapest in the end.

Formerly hardwoods were used only for furniture, fixtures, etc., but of later years it is entering largely into the interior finish of our best buildings and residences and is rapidly gaining favor and should be more universally and generally used for this purpose. Among the prominent firms identified with this interest is that of John Wigmore & Son, whose yards are located at 129 to 147 Spear street and 26 to 28 Howard street, with a branch establishment at Los Angeles.

They are wholesale and retail dealers in hardwood lumber and timber, Mahogany, Black Walnut, Quartered Oak, Plain Oaks, both red and white, Ash, Cherry, Spanish Cedar, Maple, Whitewood, Prima Vera; newel posts, balusters and rail stocks and all kinds of plain and fancy veneers and fancy woods.

Among buildings recently erected for which they have furnished hardwood lumber are the following: Mrs. Porter Ashe's residence on Van Ness avenue; W. H. Crocker's residence, A. D. Moore's, the Flood mansion, The California Theatre vestibule, the New *Chronicle* building, and many others of the principal residences and business blocks in this city and vicicinity.

Messrs. Wigmore keep in stock both at their yards in this city and at their branch in Los Angeles a full and complete stock of hardwoods and are prepard to furnish any quantity desired to builders or the trade.

Cooking Ranges.

An important adjunct and convenience to the modern residence and an important feature in the equipment of a hotel or restaurant is a first-class and reliable cooking range.

As great an improvement and ingenuity in this particular industry has been shown by manufacturers as in any other of the interests identified with buildings of the present age.

The French range of former years was more of an experiment and to-day has reached a degree of perfection equalled by few of our modern conveniences and is vastly superior to the old style range and common cooking stove. No really first-class residence, restaurant or hotel is complete without a range, and owners of buildings, or architects should specify the construction of a range in connection with the other conveniences of the building to be erected.

The superiority of a range over a stove is its cleanliness. firstly in regard to cooking utensils and secondly in the saving of labor in polishing the range, it being built entirely of brick, the top being the only part to be polished.

The John G. Ils & Co., French cooking range, now on the market and manufactured by them exclusively, is the very latest and most improved range and is the result of their experience of over thirty years in this particular branch of business.

Their range is built on a brick foundation on the floor of the kitchen or cuisine, the iron front frame and oven being filled and built in with the brick work, which is built around it forming the flues, the top of the range is then placed upon the frame, the entire range complete, forming a stationary fixture. The castings of their ranges are made of a superior iron imported for their especial purpose and cast in their own foundry under the personal supervision of Mr. John G. Ils. Their ranges are erected with the greatest of care in order to insure the greatest wear and tear, and obviate the necessity of numerous repairs so prevalent with most ranges and stoves.

Besides the conveniences of these ranges for baking and cooking is the saving of fuel, for being set and built in brick, the fire once started, the heat is retained for hours.

These ranges are so constructed that the hot water back for the heating of water can be arranged so as to heat any amount desired for the largest dwelling, and they also retain the heat longer than the ordinary range. They are built in various sizes to suit, from 3½ foot one oven range to a 13 foot four oven range, operated by one fire place.

In eastern cities the range is always specified in the building of houses and builders and owners of buildings should see that their ranges are properly constructed.

The firm of John G. Ils & Co., was originally established in 1850 by John G. Ills, and conducted by him until March 1889, when upon his death he was succeeded by his son, the present proprietor.

The warerooms and factory, 814 and 816 Kearny street, have recently been enlarged to meet the requirements of their rapidly increasing business to almost double their former size, where a full and complete stock of all the necessary parts for all kinds of of brick set furnaces and bake ovens is carried, besides stoves, tinware and kitchen outfits.

They are also proprietors of the Jackson Foundry located in the rear of their warerooms, where they make fine castings of all kinds.

Among the numerous hotels, restaurants and residences supplied with the John G. Ils & Co., French cooking ranges the following are mentioned:

The Baldwin, Occidental, Lick, Russ, Pleasanton and Silver State, the Merchant's Club, Pacific, Union Club, Bohemian Club, The Maison Riche, Marchand's, Vienna Model and all the Southern Pacific Railroad eating houses and principal hotels on the Pacific coast, also in the Christian Brothers, New St. Mary's College, Protestant Orphan Asylum, Old Ladies' Home and all the city, county and state institutions.

Some of the residences supplied with this superior cooking range are Charles Crocker, Senator Stanford's, Hopkins, Flood Mansion, Parrott, Palache, Daniel Meyer, Lilienthal, Walter, D. Samuels, H. Liebes, Capt. C. J. Harrison, Saucelito, and many others.

The Dyckerhoff Portland Cement.

When the Dyckrhoff Portland Cement Works were established at Amoenburg, near Biebrick and Mainz, on the Rhein, Germany, about twenty-seven years ago, it was then (as it always will be) the fixed purpose of Messrs. Dyckerhoff & Sons to produce a Portland Cement superior to any other, one of never failing quality, which will always permit its excellent properties to be utilized to the fullest extent with the utmost confidence in always producing the same results when employed under the same conditions.

Aided by the natural advantages of excellent raw material close at hand, the adoption of al scientific and mechanical inventions and improvements, and with the constant and ever watchful supervision of all the details of manufacture, they have accomplished their purpose.

The high opinion in which their Cement is held everywhere, and the steady growth of their works to a present annual capacity of about 700,000 barrels, are eloquent testimonials of the extraordinary merits of this Cement.

Though the seller of any brand of Portland Cement, as well as of any other merchandise, may claim his brand to be the best (without which claim he would very likely not succeed at all), it is of the utmost importance that architects and engineers, as as well as masons and other consumers, should not permit any Portland Cement to be used unless they are fully satisfied that its quality is perfectly reliable and that its reputation for strength and uniformity is well established.

No Portland Cement should be considered *good enough, or answer the purposes*, unless it is the very best obtainable. In the absence of a simple and practical system of tests careful inquiry should be made as to which brand enjoys the highest reputation for excellence of strength and uniformity, and only such should be specified or employed.

The quality of the Dyckerhoff Portland Cement is unrivaled by any other. It is of

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Metropolitan Temple. WM. MOOSER, ARCHITECT.

correct chemical composition, perfectly well burnt and very finely ground, and as the system of appliances of every stage of its manufacture is so complete, its strength, fineness and other properties are invariably the same.

The extraordinary fineness of the Dyckerhoff Portland Cement is a very important advantage.

Cement serves the purpose of covering and binding together grains of sand, etc. The finer cement is ground the larger will be the quantity of sand which a given quantity of cement can cover and intimately bind together. This explains the fact that the extraordinary and uniform fineness of the Dyckerhoff Portland Cement will permit the addition of 25 to 50 per cent. more sand than any other well known but generally much coarser brands of Portland Cement.

Its slow setting is another advantage of great importance, as it gives ample time for the proper preparation of the mortar. The hardening proceeds slowly at first but surely, and advancing in age, the material obtains increasing strength, as tests even after two years have shown. Most brands of Portland Cement will attain a certain degree of hardness, but this is not the only property required of a good Portland Cement. Many brands, owing to the imperfection of their composition or manufacture, will not stand the test of time and are subject to contraction or expansion in volume to the great injury of the work in which they may have been used. The Dyckerhoff Works, however, have succeeded in producing the strongest cement known, unalterably in volume, not liable to crack, and of a uniform and never varying quality.

THE PACKAGES

weigh 400 pounds gross and 375 pounds net each. The barrels are made at the cement works, of well seasoned wood, excellent heads and hoops, lined with tar paper to prevent the effects of moisture, and the workmanship is so perfect that they will bear the rough handling occasioned by repeated transportation without loss by breakage or sifting. The cost of these excellent packages is naturally greater than that of the packages in which most brands are being shipped, but the advantage to the dealer and consumer in receiving good packages and full weight, as against a shortage of from 3 to 5 per cent., which most brands suffer by reason of inferior packing, is of great importance.

The Dyckerhoff Cement weighs 113 pounds the U. S. bushel.

THE PRICE.

By reason of the great care bestowed upon the manufacture as well as upon the packages, its cost is naturally somewhat higher than than that of most brands less carefully made, but the vastness of the quantity annually produced has lessened the difference in the selling price as against that of inferior brands to a mere trifle.

Inasmuch, however, as the consumer gets full weight and the extraordinary quality of the Dyckerhoff brand permits an unusually large addition of sand (25 to 50 per cent. more than other brands), it is not only the best and most reliable, but also the cheapest brand in the market.

The theory of some contractors, that for work to be done at a low figure they must necessarily use a low-priced cement is most erroneous. On the contrary, they ought to use the very best cement, without regards to its being a little higher in price. Careful consumers have long ago discovered that they can add enough more sand to do with 400 barrels of Dyckerhoff the same volume of work for which 500 barrels of an inferior Portland Cement would be required, and besides the great economy in cost they have the satisfaction of knowing, nay the guarantee of producing good and durable work, which with an irregular and inferior cement is always more or less doubtful.

The employment of low-priced Portland Cements to secure cheap work often results in serious defects or the ruin of the work after a short time, with consequent loss to owner or contractor. Many times the work must be done over again with the inferior cement, at first rejected, thereby doubling the expense of the job. By resisting the temptation of low-priced cements such losses can easily be guarded against.

The objects for which *Portland Cement may* be used are many, and constantly new applications are given to it; where formerly other materials were employed, *Portland Cement Mortar* is used for brick and stone masonry above and underground, for plastering fronts and brick houses, cellar walls, cisterns, for laying tiles, etc.

Portland Cement Concrete, composed of Portland Cement, sand and gravel or broken stone is employed for foundations and the construction of walls of buildings, foundations for heavy machinery, for foundations of asphalt and tile pavements, for abutments and roadways of bridges, in the construction of fortifications, piers, docks and river embankments, cable roads, gas tanks, aqueducts, water reservoirs, sewers, cisterns, etc.; in the manufacture of sewer pipe, ornamental vases, statuary, marbleized mantels and building stone.

Artificial Stone made from Portland Cement, is employed for paving sidewalks, garden walks, play grounds of school houses, corridors in hotels and theaters, railway stations and railway platforms, for fire and waterproof flooring in factories and foundries, breweries, malthouses, refineries, stables, engine houses, cellars, etc., and is much preferred to natural stone. Being applied in plastic state, any shape, the largest slabs, smoothest surfaces and closest joints can be produced.

Recently in a number of warehouses, breweries, etc., floors have been constructed of concrete arches resting on iron beams, with a smooth surface for the floor of the upper story, which proved stronger, more serviceable and cheaper than floors constructed of brick arches with a cement or asphalt surface for the floor above.

Directions for the employment of Portland Cement, preparation of Portland Cement *mortar*, of Portland Cement *concrete* and *artificial stone pavements for walks* and *flooring* are contained in our special pamphlet.

Numerous testimonials from architects, engineers, contractors and builders residing in the principal cities of the United States are also contained in our pamphlet and will be submitted to all interested parties when called for. The principal architects and builders in this city who have employed and used the Dyckerhoff Portland Cement in the erection of buildings here are:

Messrs. Percy & Hamilton ,architects for the Academy of Sciences Building, the Alonzo Hayward Building.

Messrs. Pissis & Moore, architects for the Hibernia Bank Building.

J. K. Littlefield, Esq., architect, for the Concordia Club Building.

Henry Geilfuss, Esq., architect for floors and the erection of several brewery buildings and many private buildings.

Messrs. Wright & Sanders, architects for the State Asylum Buildings at Berkeley.

George Schussler, Engineer Spring Valley Water Works.

Kenitzer & Kollofrath, architects.

George Goodman, Artificial Stone Manufacturer.

Schulze & Meeker, architects.

Chatain & Gilletti, Artificial Stone, Mosaic and Concrete.

Ransome & Cushing, Concrete and Artificial Stone.

P. H. Jackson & Co., Manufacturers of Artificial Stone, Iron Vault Lights, etc.

Hugo Visher, engineer.

Marsden Manson, C. E., Chief Engineer State Harbor Commissioners, and many others.

For any other reliable information regarding the Dyckerhoff Portland Cement, cards and pamphlets, can be procured of the agents in this city, 314 Sacramento street, where samples of the cement made here and in Europe, together with briquettes in different forms can be seen and examined.

MESSRS. CHAS. DUISENBERG & Co., in San Francisco, 314 Sacramento street, below Battery, are the sole agents for the Pacific Coast.

Patent Water Closets.

If there is any one thing above another which should attract the close scrutiny and attention of the owner or builder it is the sanitary arrangements and appliances used in the building.

Nothing has a greater influence upon the health and comfort of the tenant than the sanitary arrangement, and more particularly upon the kind of water closet used.

The most natural and safest way to dispose of soil matter is to pour it out. The most simple, effective and common sense closet should be used, one with no complicated parts to get out of order, no noisy or uncertain action, no hidden or inaccessible receptacle for the accumulation of filth and the generation of deadly gasses and disease germs. Diptheria, typhoid, scarlet fever and numerous kindred diseases are in most cases traceable to defective water closets, and it is certainly to the interests of owners to use such closets as will prevent these gases escaping throughout the house endangering life and health and making the house lived in a veritable disease breeding machine.

Among the various water closets in use here in this city and on the coast, none stand higher than the Golden Gate Plug Closet, invented and manufactured by Joseph Budde, No. 43 Fremont street.

This closet is the very best of the kind so far constructed, and has the following advantages:

1st. It has a simple, strong valve, suitable for any pressure.

2d. It has a real sanitary overflow, a copper float attached to a bell of the same metal resting on the face of the brass overflow pipe, and operated by the rising of the water in the closet above its level, thus absolutely preventing any escape of sewer gas,

The Oriel Row, on Haight Street. A. J. BARNETT, ARCHITECT.

even the closets being without water. No house supplied with these closets is troubled with sewer gas or other gaseous smells, and it is certainly the cheapest and best in the end to place such a closet in the building than to use inferior or poorer ones.

The establishment of Mr. Budde's is the largest of the kind on the coast, his closets being shipped throughout this entire section. He has every facility for filling all orders and contracts on the very shortest notice, his works being equipped with all modern machinery necessary for the conduct of his business. He has received several medals from the California State Agricultural Society, for the Golden Gate Plug Water Closet, it having been pronounced the best by competent judges and is in use in the buildings of the Sharon estate, in Bancroft's History building, 19 closets, Baldwin's building, occupied by Keane Bros. and Pinkiert, Market St., 10 closets, Chas. M. Plum & Co., Market St., 8 closets, Panorama building, 8 closets, New and Old City Hall, 14 closets, Liebes Bros. & Co., 4 closets, Grand Hotel, Lick House, Windsor Hotel, Nucleus, Hackmeier and other hotels, James C. Flood building, Abner Doble, Hinkle Houses, 30 closets, Hebrew Church, corner California and Stockton streets, Brooklyn Presbyterian Church, East Oakland and many others.

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New Goods, just receved, all Original Designs and Latest Finish.

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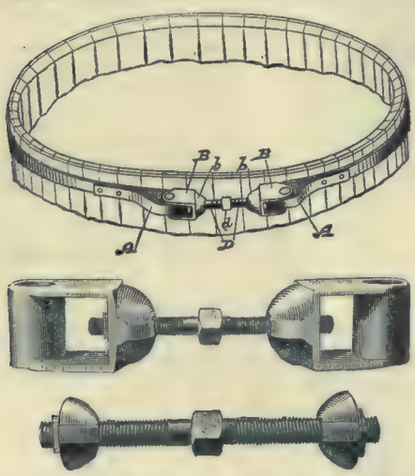

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Best Band Coupling in the World.
Most Simple in Application.
M st Powerful, Cheapest.
Ball and Socket Joint.
Right and Left Screw.
Works Freely and Effectively
Malleable Iron, Guaranteed to Stand a Pulling Strain that will Break the Hoop.

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—IMPORTERS OF—

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An Institute for Theoretical and Practical Education for Building Tr desmen. Completed within three courses Terms begin September, December and March. Students may enter in any one of these terms. The Academy will always assist its graduates in obtaining positions as Draughtsmen, Superintendents, Foremen, etc. Send for Prospectus.

H. MAACK, Principal.

Retail Price List of Lumber.

PINE, FIR AND SPRUCE.

	Per 1,000 ft.
Rough Pine, m'cantable to 40 ft inclusive.	$19 00
" " " 41 to 50 " "	20 00
" " " 51 to 60 " "	22 00
" " " 61 to 70 " "	26 00
" " " 1X3, feucing	21 00
" " " 1X4, "	20 00
" " 1X3, 1X4 and 1X6, odd lengths	18 00
" " secondquality	16 00
" " selected	23 00
" " clear except for flooring	30 00
" " " for flooring less than flooring	1 00
Clear V. G. No. 1 Flooring, when ordered, extra	5 00
Fire Wood	10 00
Dressed Pine, flooring, No. 1, 1X6	31 00
" " " 1X4	33 00
" " " 1¼X 4, 1¼X6 and odd sizes	36 00
" " " all sizes, No. 2	26 00
" " Stepping, No. 1	43 00
" " " " 2	33 00
Ship Timber & Pl'k. rough selected	26 00
" " selec'd pl'nd, 1 sd, av 40ft	28 00
" " " " 2 "	30 00
" " " " 3 "	32 50
" " " " 4 "	34 00
Deck Plank, rough, average 35 feet	34 00
" " dressed, average 35 feet	39 00
Pickets, rough, B. M.	19 00
" ½x1½ "—4 ft. long, per M	5 50
" ½x1½ "—4½ ft. long	6 00
" ½x1½ "—5 ft. long	7 00
" ½x1½ "—6 ft. long	8 50
" ½x1½ "—7 ft. long	10 00
" ½x1½ "—8 ft. long	11 50
Furring, 1x2, per lineal ft.	01
Lath, 1½ 4 ft., per M	2 75
" 1½ 4 ft. "	3 00
Spruce, rough "	19 00
" dressed, shelving	36 00
" " ½ inch	36 00
" clear	33 00
Rough dunnage, delivered	20 00

REDWOOD.

Rough Redwood, menchantable	19 00
" " second quality	16 00
" " selected	25 00
" " clear	34 00
Dressed " merchantable boards	21 00
" " ½ inch surfaced	31 00
" " No. 1 do	34 00
" " No. 2 do	25 00
" " T & G, 1x6, 12 ft. and over, No. 1	34 00
" " " other sizes, No. 1	37 50
" " " 7 to 11, No. 1	25 00
" " " under 7 "	22 00
" " Rustic, No. 1	35 00
" " " " 2	31 00
" " T&G b'ded 12 ft. and over, No. 1	34 00
" " " other sizes, No. 1	37 50
" " " 7 to 11 "	25 00
" " " under 7 "	22 00
" " Sliding, ½ inch	25 00
Casing Stock, 1, 1¼ and 1½ Rough 7 to 11	25 00
" " 1x3, 4x6, Clear, under 7	22 00
Tank Stock, 2 and 3 inches, clear, (surfaced or rough,) under 12 ft.	27 00
Pickets, (fancy), 4 ft., B M	25 00
" (rough, pointed), B M	18 00
" (" square), B M	16 00
Battens, ½x3, per lineal ft.	01
Shingles, per M	2 25
" fancy "	3 50
Posts, split	17
Shakes, split, per M	11 00
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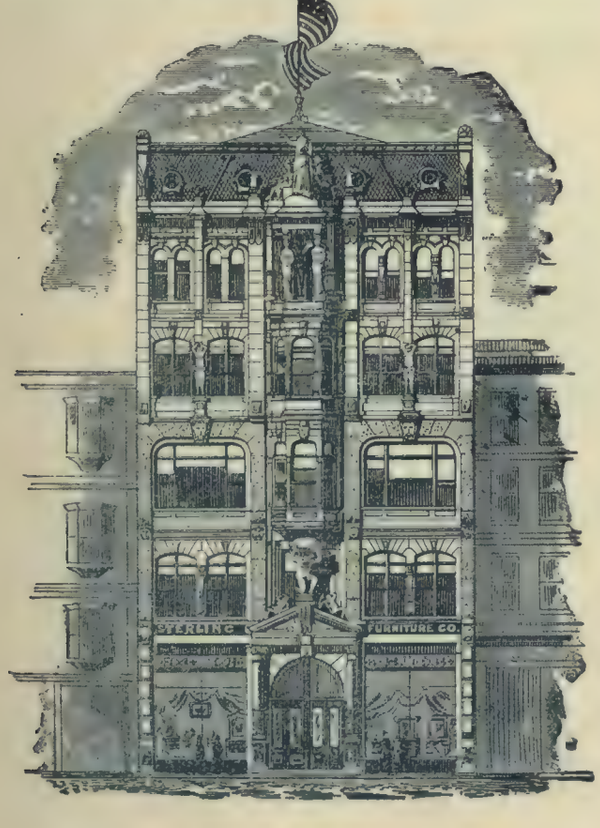

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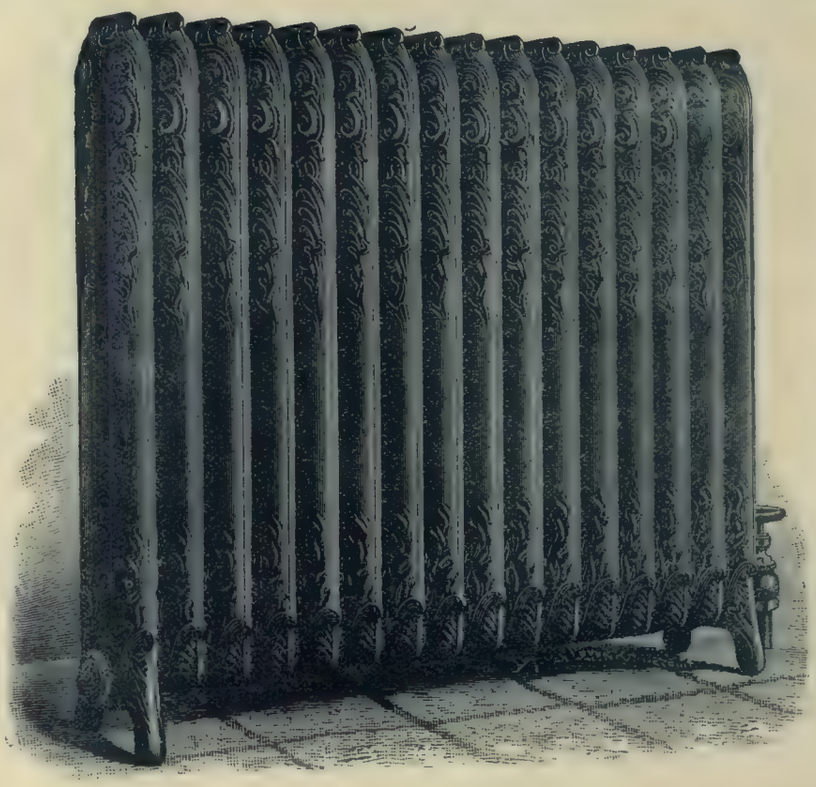

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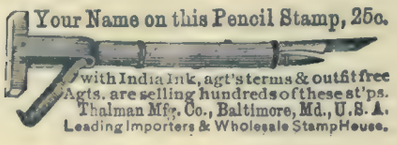
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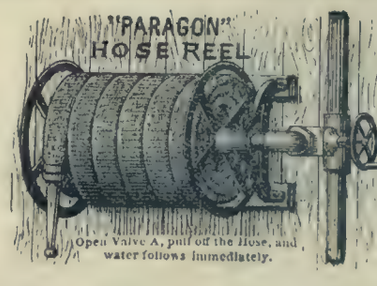

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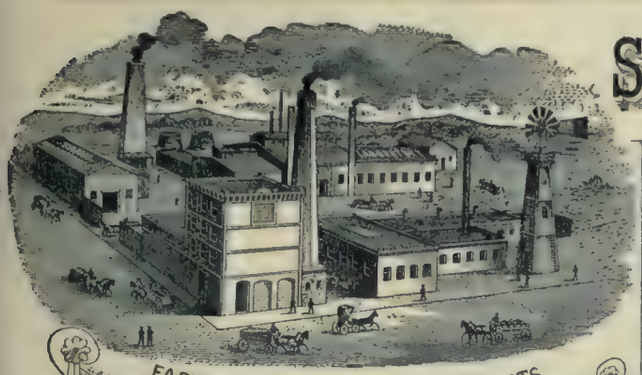

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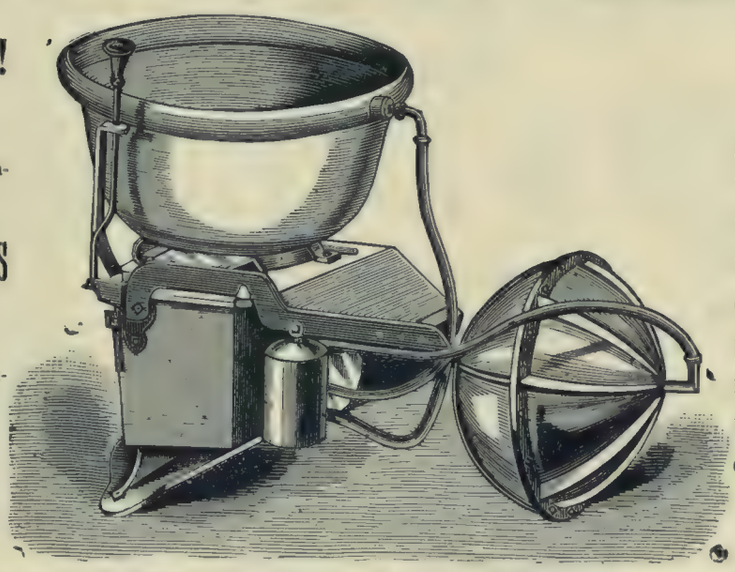

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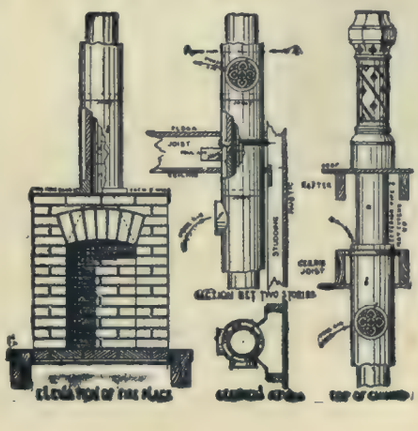

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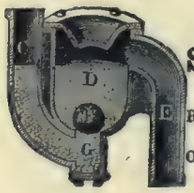

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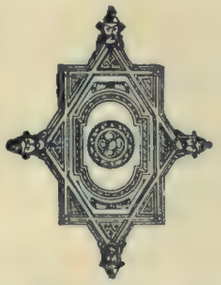

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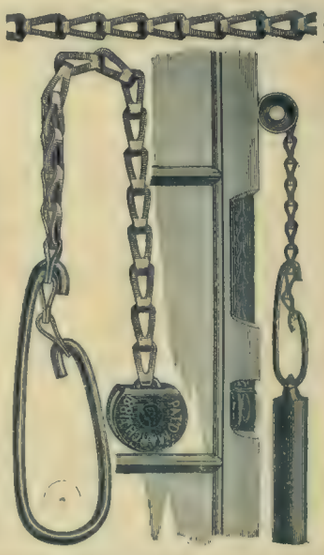

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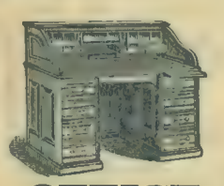

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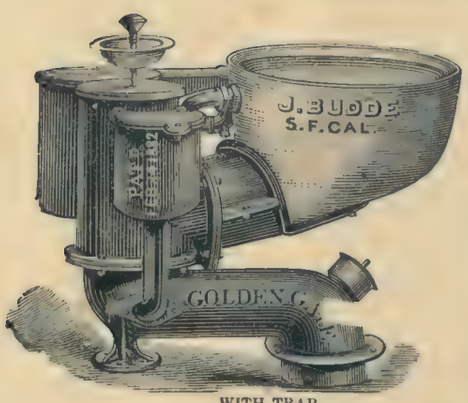

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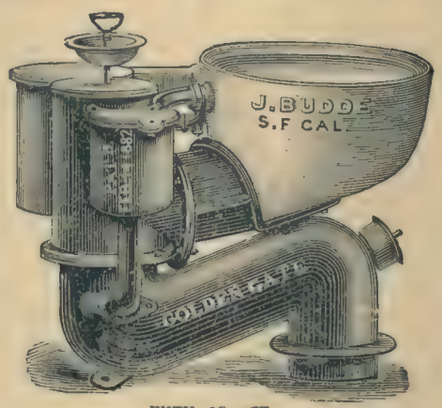

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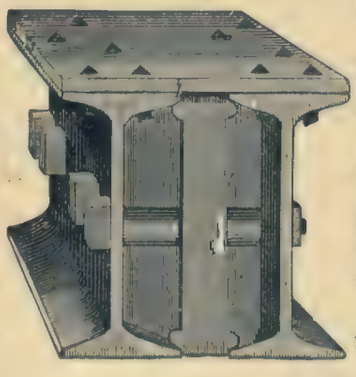

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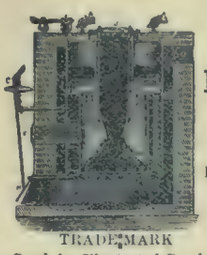

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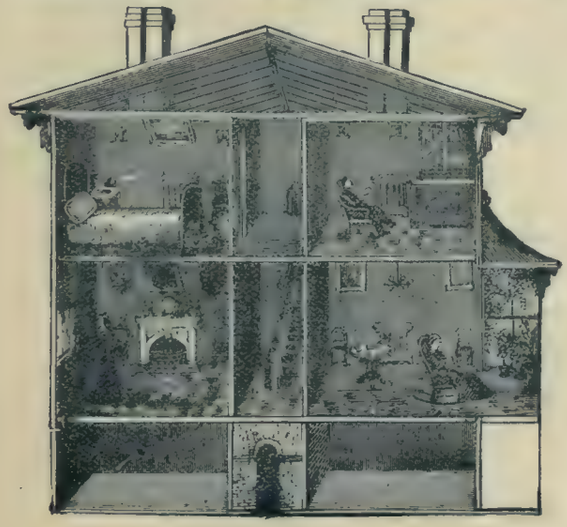

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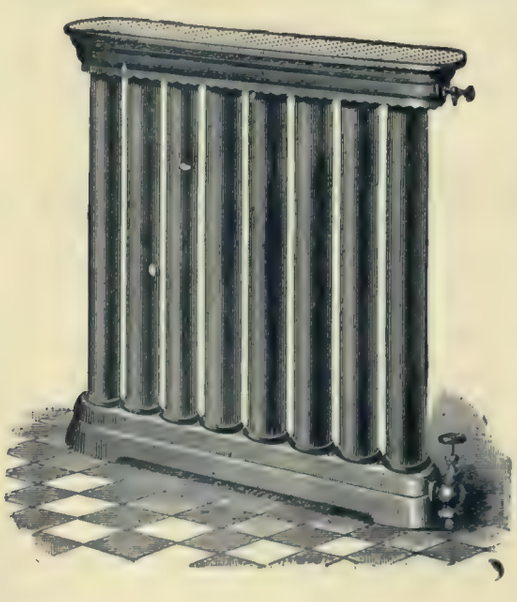

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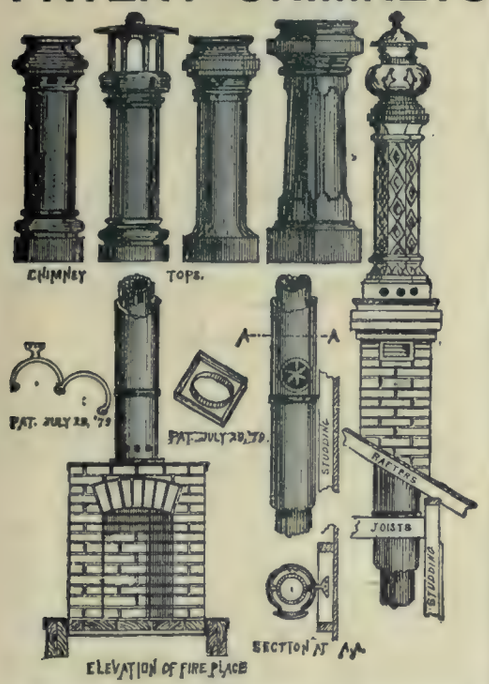

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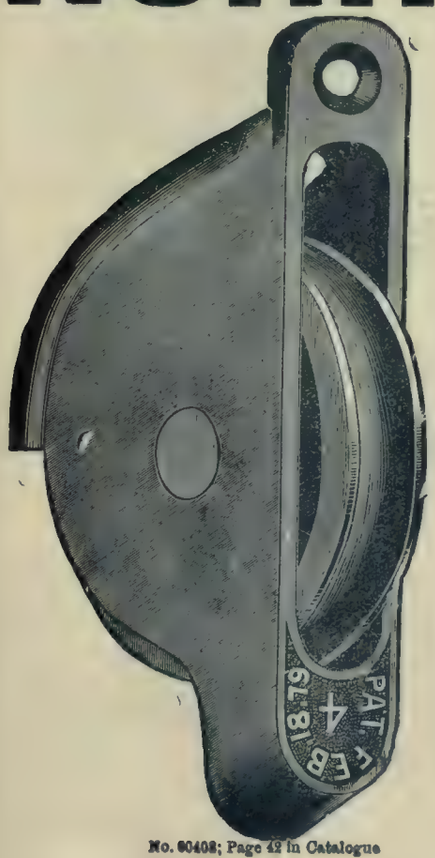

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The * California * Architect * and * Building * News.

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MR. George H. Wolfe, having no further connection with this journal, correspondents will in future please address their communications to the *California Architect and Building News*, 408 California street, San Francisco, Cal.

THE Consolidated Convention, which is to meet in Cincinnati on November 20th, will be of very considerable interest to architects. Of course we on the Pacific coast do not care much as to where the home office shall be. If they adopt the itinerant plan of changing it every year it may be our pleasure to see the headquarters in San Francisco for one year at least. We will pass that subject and only refer to the work which has been mapped out for it in advance. We understand that the following matters will come before the Convention: How shall the new institution be governed? Shall the profession be legalized, and applicants be examined for admission? Then there is the important matter of competition for public work. The Convention can do no better work than by formulating some plan by which competitions in future for government building and any public work shall not be open to persons whose qualifications to compete have not been passed upon, or whose greatest genius may be in their power to influence committees.

It is not to be dreamed that this convention will set all things at rest for all time, but we desire to see a code of laws established that will place the architects on a higher plane with the people than heretofore occupied by them. We expect eventually that architects will have the same legal standing that physicians and lawyers have.

THE adjourned meeting of the San Francisco Chapter, A. I. A., was held Friday evening, September 20th. The business before the meeting was the election of officers for the coming year, and the balloting resulted in the choice of the following: President, Seth Babson; Vice-President, W. P. Moore; Secretary, Oliver Everett; Treasurer, John M. Curtis.

After business had been disposed of, matters of current interest to the profession were brought up and discussed at length.

SELECTING the site for the Custom House aud Appraisers' stores at Bowling Green is the most interesting event of the week architecturally. Government buildings in general are not matters of any special importance to architects, as they have heretofore been simply ground out of the Treasury. But under so capable a Supervising Architect as Mr. Windrim, we shall hope for better things. Recognizing the utter impossibility under the restrictions imposed by his position of his personally designing such a structure, we should be glad to see him inaugurate a change in the conduct of this important Government building by obtaining from Congress the authorization to offer to American architects a model competition. His experience in the practice of his profession would enable him to block out a competition that would attract the best talent. Then the site offers the opportunity of the generation for an imposing structure. whether viewed by sea or land, one that would impress every stranger on his first sight of our city,

---

The above editorial taken from *Building* advocates a change in the method of obtaining designs for government buildings, and the proposed change is one that we would most heartily endorse, and that would meet with the unqualified approval of the profession in general.

While undoubtedly many very meritorious buildings now are designed in the office of the Supervising Architect of the Treasury, it is sincerely hoped that Mr. Windrim whose abilities as an architect and whose interest in the welfare of the profession are well known, will consider the matter seriously enough to give it a trial.

Is it not reasonable to suppose that local architects familiar with the methods of construction most in vogue by the builders of their locality, more acquainted with the requirements necessary to make the structure harmonize with its surroundings, more interested in the erection of a striking monument, and ambitious to gain the distinction that comes from success in a public competition, should design a more noble structure than an architect (no matter how capable he may be) employed at a salary by the government, and who has no greater personal interest in his work than the reward of an approving conscience?

Owing to the changing methods of construction, and the enlarged number and variety of materials at the disposal of the designer of to-day, architecture is now passing through a period of evolution, that presents infinite and unparalelled opportunities for the display of originality in design, and the adaption of material to circumstances; and it seems to us but fit that our public buildings should be the medium of record of the best ideas of our foremost architects.

Our country is certainly rich enough not to look at the cost of obtaining the best possible designs and should follow the lead of the most advanced of European nations (notably France) among them by giving substantial encouragement and aid to the progress of the arts of civilization, and what art among them all is more worthy the aid and support of an enlightened government than the art of architecture!

The question is one of special interest to us at the present time, as our new post office building has become such an absolute necessity that some definite action cannot long be deferred, and what could be more appropriate than that it should embody the conceptions of some of our architects, of whom there are many worthy and capable of erecting a structure at once an ornament to the city and a credit to themselves.

Undoubtedly the change from the present method of proceeding would occasion difficulties at first and disarrange to a certain extent the present method, but the advantages to be gained would, we think, amply compensate for any trouble it would cause.

As an exemplification of the present method, take the Appraiser's, building in this city. The structure is substantial, and no doubt well adapted for the purpose, yet who will claim for it the least pretension to architectural beauty.

It is not necessary that the external finish of a building should be elaborate to produce an imposing effect, for skillful massing will produce almost as striking effects without as with the aid of ornamentation, and we venture to assert that a much more attractive building could in this instance have been produced at a very little greater expense, a building that would have been emblematic of the aims and purposes it serves, and typical of the people in whose midst and for whose use and convenience it was constructed.

WE PUBLISH in another column the experience of several English towns in the use of salt water for sprinkling streets and flushing sewers. The claim that salt water is more effective than fresh, for street sprinkling is undoubtedly well founded, owing to the well known affinity of moisture for salt, which would tend to prevent the rapid evaporation of the water. One of the objections urged against the use of salt water for sprinkling is that the dust arising from streets that have been repeatedly watered is so strongly impregnated with salt as to become injurious.

A. W. VON SCHMIDT has made a proposition on behalf of himself and partners, known as the Lake Tahoe and San Francisco Water Works, to furnish San Francisco with water from Lake Tahoe, to the extent of thirty to sixty million gallons of water daily. The proposition is a good one, as the people are longing for the fulfillment of a dream which has haunted their waking hours for years; but will any sane man think it will be realized just now? We think not. Mr. Von Schmidt says it will cost $15,000,000, and that the city should pay for it and become the owner. That is another good idea, but our "lawmakers," who never get up to the top story of a reasonable thought, will not permit Spring Valley to be flooded out with 60,000,000 gallons daily of pure crystal water from the mountains. You will never drink of Tahoe as long as there is any Spring Valley or Alameda County pasture drainage to give. Von Schmidt says Tahoe can supply 135,000,000 gallons daily, and not be lowered a foot in a year. Just think of it—and keep on in your reverie. You will have Tahoe nightmare and Spring Valley jimjams a great many times before your disgusted stomach is soothed and cooled by the transparent liquid from the Sierra mountain-sides. We wish Mr. Von Schmidt God speed in his undertaking, but the side doors and open hatchways of law and politics are so numerous that his scheme will probably be lost sight of, though the thought will still be sweet in the memory of his friends.

We again invite all architects or persons interested in architecture to visit our rooms and take advantage of the numerous publications on our tables.

TO THE fraternity of architects in California, Oregon, Washington and elsewhere on the Pacific Coast, we send this greeting: This journal being owned and published by many architects, there is no longer any personality about it—it is *of* all and *for* all. We have fitted up the apartments at 408 California street, San Francisco, in such a manner that we are not ashamed to invite you to visit us. We extend to you all a cordial invitation to call at our rooms and partake of the benefits. Should any of you desire to make our rooms a place of appointment to meet business men, do so; that is what they are for. Here you will find all the current literature of our profession, and we will always be cheerful in rendering you any assistance. If there is any information we can furnish you by letter, do not fail to write us, for we shall be pleased to serve you.

TO OUR SUBSCRIBERS we wish to say this: We desire to present you a journal of which you may be pleased to speak in complimentary terms, and as you pay your $2 each year consider that you have received more than your money's worth. That is our ambition and our purpose. To do this will take time, and your further assistance during the coming year. We shall furnish you with more and better representations of buildings and other architecture of importance, but do not expect to get fairly into line until our January, 1890, number. To this end we ask your encouragement by continuing your own subscriptions and getting your neighbors to do likewise.

ONE word to our advertising friends who have patronized this journal so faithfully in the past—Remember that it is under the direct control of architects, and is to be sustained by them. It is subscribed for by architects, contractors and builders, and will be distributed to and among that profession and calling throughout this Coast. We do not ask you to advertise unless you think it may benefit you—do not do so for "sweet charity's sake," but send us your advertisement in a business like manner, expecting to be pecuniarly rewarded through the circulation of the journal. Keep your wares directly before the people who use them and you will sell them.

CLASS journals are a necessity. In these days of rush and push it becomes important to have some method, or confusion, waste of time and energy will follow. Merchants locate their stores among others of the same class, professional men congregate in nearly the same locality, while bankers and insurance men select another spot, leaving the lumber and machine interests to go off by themselves. It is thus with newspapers and journals — the field is divided, each plowing in his own quarter and each reaping his own harvest. We were prompted to this thought by looking over our city files and seeing *Industry*, conducted by John Richards, a man not unknown to the scientific world; *Wood and Iron*, under the able management of Samuel Everett; *Pacific Lumberman*, *Contractor and Electrician*, guided by the skillful hands of W. L. and H. D. Peet; the patriarch of all, Dewey's *Mining and Scientific Press*, and our youngest contemporary, *Smith & Young's Building Advertiser*. Each has his work to do, and each is doing it well.

A few days ago a mass of brick work over the entrance of a Court room in the Old City Hall, was precipitated to the floor, owing to the breaking of the rotten wooden lintel that supported it. Fortunately nobody was injured.

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Use of Salt Water in Cities and Towns.

An enormous saving in water would be effected if sea water were used in all cases where fresh water is not absolutely indispensable, and especially for such purposes as the flushing of sewers and the watering of streets. The advantages to be derived from sea water for such municipal purposes as the above have frequently struck engineers, and are set forth in a paper read by Mr. S. H. Terry before the Civil and Mechanical Engineers' Society. There have not been wanting schemes for supplying sea water even to inland towns, but hitherto it has been objected that sea water, though so abundant, was an expensive commodity to supply to towns, and it has even been asserted that the effect of sea water, on pavements, for instance, was anything but beneficial. These ideas, however, have now been exploded.

A gallon of sea water contains about 2,500 grains of saline matter, of which about 1,890 grains are common salt—chloride of sodium—the remaining 610 grains being composed of other salts; and it is due to the deliquescent character of one of these salts, chloride of magnesium, that any material having once been moistened by sea water, remains moist for a considerable period. But, after storms, there is also present in sea water taken from near the shore in the vicinity of weed covered rocks, a considerable amount of organic matter from the destruction of seaweed, and the consequent mixture of its glutinous sap with the water. It is believed that it is to this glutinous material that the formation and endurance of the bubbles of sea-scum, which occasionally, in gales, are driven some distance inland, is due. As, roughly speaking, about eighty pounds' weight of various salts are present in every water cart containing 224 gallons—one ton —of sea water, it will be seen that much material, which may or may not be injurious, is, in the course of a few weeks, spread over the streets of a town by the water-cart. This fact had created a feeling that the use of sea water for streets might not be without its dangers, and Mr. E. Buckham, M. Inst. C. E., Borough Engineer of Ipswich, was so much impressed with it that he instituted inquiries on the subject, and requested information from the engineers of thirty-five coast towns which had used sea water for watering the streets. Twenty-three of the engineers written to replied that they were no longer using sea water, as they had no works for that purpose; twelve stated that they were using sea water, some with suitable works, and some by merely filling the carts by hand; and two that they were about to have works.

The engineers of two towns; Ramsgate and Folkestone, spoke adversely of sea water, and stated that it destroyed all kinds of road material except wood. Some advised its use for sewer flushing, if a sufficient volume was employed; others, again, were of opinion that sea water tended to produce gas when brought into contact with sewage, and should not be used for sewer-flushing except in large volumes. But it is probable that sea water only produces objectionable effects in sewers when these are particularly foul, and the influx of sea water stirs up the decomposing matter deposited in them. With regard to the efficiency of sea water as a means of preventing dust on roads formed of flint, gravel or granite, the testimony of those who have used it is almost entirely in its favor. Indeed, the Borough engineer of Berwick-on-Tweed goes so far as to say that persons having control of street-watering should use sea water, where it can be had, for reasons of economy, as well as for the comfort of the inhabitants. In his district he finds that one cart of sea-water is equal to two carts of fresh water, and gives more lasting and beneficial results. He states that the macadamized roads that are watered with salt water are a pleasure to drive upon in the summer season, as compared with those watered with fresh water, and they never seem to have a loose stone upon them.

In answer to Mr. Buckham's question, whether sea water occasions any offensive decay of street refuse, and if so, whether this is greater than would be occasioned by rain or fresh water, the pithy reply was; "No; when the scavenging of the town has been properly attended to." Without enumerating all the favorable answers that were received, it will suffice to state that the following important seaside resorts reported in favor of sea water: Portsmouth, Tynemouth, Great Grimsby, Great Yarmouth, Hastings and Littlehampton. Hastings, which has a population of 42,258, and a rateable value of £309,219, has erected extensixe works at a cost of £9,000 for sea-watering, which means a charge of about 3*d* per head of the population, or ½*d* on the rateable value. Great Yarmouth, with a population of 46,159, and a rateable value of £133,658, has completed works for salt-watering at a cost of £4,500. Here an 8-horse-power Otto Crossley gas engine has been erected, with a 12-inch pump, engine-house, tower and tank, containing 22,000 gallons, settling-tank and suction-pipe, fixed to the jetty. There are about 9,000 yards of main, ranging from eight feet to three inches, cast-iron socketed pipes, lead jointed, forty stand-posts, twelve automatic flushing siphons — Field's — each connected to tanks holding 2,000 gallons of sewer-flushing.

The total expenses, including interest and capital, repayment of loan in twenty years, depreciation of wages, gas, oil, etc., are under £500 per annum. For this amount some 30,000,000 gallons are raised forty-four feet at a cost of 4*d* per 1,000 gallons. Of this volume about 5,000,000 gallons are used for street-watering, and 25,000,000 gallons for sewer-flushing. Before these works were constructed, the cost of water for street-watering alone was £404 on an average of each seven years, ending 1883. In 1885 it was as much as £552. To keep the automatic tanks of the size mentioned properly going the cost would have been £700 per annum. The charge for water at Yarmouth at that time was one shilling per 1,000 gallons. The cost of watering for street-watering and sewer-flushing, including all items mentioned above, is less than three pence per head per annum, and sometimes under one penny in the pound. At Gosport a similar experiment has been made, with highly satisfactory results. The facts speak eloquently for themselves, and require no further comment. In some cases, however, the water companies offer a very strenuous opposition to the introduction of sea water, and Mr. Terry instances the case of Kirkhallerton, near Redcar, on the Yorkshire coast, where a very neat scheme was got out for the supply of sea water for street-watering, and it was also intended to supply sea water for bathers to the houses, and but for this intention the scheme would probably have been carried. The law here stepped in, and showed that inasmuch as the district was within the limits of supply of the Stockton and Middlesbrough Waterworks, a loan for such works of proposed supply would be illegal.

The discussion which followed Mr. Terry's paper was nearly all in favor of sea water. Its employment for the watering of streets, at any rate, is a perfectly practicable idea, and one that can be adopted with economy and success. The increasing size of our towns makes adequate supply of water annually a question of greater and greater difficulty, especially when we remember that with the spread of the scientific spirit of the age cleanliness may be said to be advancing at quite an alarming ratio, and that the demands made on our water-supply for municipal purposes are growing almost daily. In London this is felt very appreciably, and it would be interesting to see an experiment tried on a large scale of flushing our enormous sewers, and watering our interminable streets with sea water. For this purpose London is more favorably situated than any other capital in Europe almost, Constantinople and Lisbon perhaps alone excepted. At any rate, there is a strong feeling that something must be done, and that speedily, and Mr. Terry's paper may, therefore, be received as containing what, at least, appears to be a very practical suggestion, and possessing, moreover, the merit of being, as far as we know, the first attempt to bring together in an accessible form all the *pros* and *cons*, and experience and practice connected with the subject. The moderate cost of the pipes necessary for supplying even a large town places the proposal very easily within the reach of realization.—*Engineering*.

The Grant Monument Committee of New York find it impossible to get its members together to consider the designs that were invited nearly two years ago.

The newspapers of other cities are casting slurs on New York for its dilatory proceedings in this matter, and point to Chicago, where a handsome monument to the memory of our famous general has not only been projected but executed as well. However, we are in no position to cast a stone at Yew York, for we also are to have a monument some of these days, (though to commemorate a different event) for which the late Mr. Lick most generously provided funds, yet we are no further on the road to its realization, than is New York with its Grant monument.

We are always pleased to see a member of the Technical or Astronomical Society of the Pacific walk into their rooms adjoining the apartments of this journal. They are always open, and heaps of information lie there, subject to inspection.

Chapter Meeting.

The regular monthly meeting of the San Francisco Chapter, A. I. A. was held Friday evening Oct. 11th.

There were present Messrs. Saunders, Babson, Pissis, Percy, J. E. Wolfe, Curtis, Gash, G. H. Wolfe, Bestor and Everett.

The principal business of the evening was the installation of the officers elected at the previous meeting. The retiring officers were tendered a vote of thanks for their past services and the incoming officers duly installed. J. B. Whittemore was elected an honorary member.

The speeches of the retiring and incoming presidents were ordered printed in full in the official organ of the Chapter.

Owing to lack of space in this issue they will appear in our next number.

HEADQUARTERS CINCINNATI ARCHITECTURAL CLUB,
CINCINNATI, October 7, 1889.

Editor California Architect and Building News—DEAR SIR: I herewith send you copies of circulars, etc., issued in connection with the National Exhibition of Architectural Drawings and Sketches to be held in this city in November next and contemporaneously with the Joint Convention of the American Institute and Western Association of Architects. The distance that is between us makes it somewhat difficult to create an interest in an undertaking of this kind among our local architects and designers. However, if such a thing were possible it must come through the efforts of the architectural press and so to you we would intrust the task of wakening up your professional men to attempt at collecting an exhibit for the occasion. As you will see by our circular, we have tried to reduce the trouble and expense to our contributors to a minimum. We have arranged to bear cost of transportation both ways, to insure drawings, etc. while in our possession, and to take every care of contributions while in our charge; all this only leaves to shippers the trouble of packing and delivering into the charge of an express company

I would like very much to write directly to some of your prominent architects and draughtsmen, and so if you would kindly send me a few such names I would take much pleasure in sending them direct invitations to contribute. I hope you may be able to do something for us. We are receiving notifications from almost every other part of the country and so we are naturally anxious to complete the representation by having something sent us from California. Our eastern cities will be well represented,and so far we have received assurances from Chicago, Minneapolis, St. Paul and Denver.

Yours very truly,
G. W. E. FIELD
Pres. C. A. C.

This exhibition will embrace the work of all Sketch Clubs and prominent draughtsmen in America and Canada. The following statement is made:

WORKS EXHIBITED.—Water color studies, India ink, pen and ink sketches, perspectives.

WHEN TO SEND,—*All* exhibits must be in Cincinnati by not later than Nov. 10th.

HOW TO SEND.—All sketches must be properly packed, and sent by express.

PRIZES,—Hinkle Gold Medal, (A. Howard Hinkle, Esq.,) for best exhibit of club work. Anderson Silver Medal, (Larz Anderson,Esq.,) for best individual work among club members. The Builder's Exchange will offer a medal for best Water Color perspective.

JURY.—Three prominent architects will act in this capacity.

TIME AND PLACE.—The exhibition opens Nov. 10th, continuing one week, and will be held in Pike's Opera House.

Further information will be cheerfully given, and all letters of inquiry are to be addressed to John Zettle, Secretary, Room 81, 227 Main street, Cincinnati.

The above communication was received at the last minute before going to press. Though the time is short, we hope the architects of this coast will not neglect this opportunity to contribute and make a creditable display at the exhibition.—[EDITOR.]

North-Western Lumberman—The mammoth Pacific Coast edition of this Journal, for Sept. covering one hundred and forty pages of reading matter and advertising has been laid on our table. It is full of lumber matters foreign and local, and under the management of that worthy jounalist J. B. Judson, of Chicago may be pronounced a success. Terms, $4.00 yearly.

Our Illustrations.

The new management of this journal desires to extend a cordial invitation to all architects on this coast and elsewhere to contribute designs for publication. Drawings should be made with perfectly black lines on a smooth white surface. The merits of all designs submitted will be passed on by the Board of Directors, and those chosen will be published in the journal without charge. All drawings will be returned to their authors, who must bear express charges both ways.

Page 134—Residence designed by T. H. Cole, a Los Angeles Architect.

Page 130—Residence erected on Scott street San Francisco, and designed by Wilcox, architect.

The plan and elevation of the Hibernia Savings and Loan Society's new bank building, now in course of construction on the northwest corner of McAllister and Jones street, Messrs. Pissis and Moore, architects.

The building will be entirely detached, and will be constructed of granite, gray for the portion below the watertable, and white Rocklin granite for the superstructure.

On the corner facing Market street will be the domed rotunda leading to the banking rooms situated on Jones street, and the rooms of the officers of the bank in the first story, and to the attorney's office on the second story of the McAllister street front.

The banking room will be 68 feet square and the full heighth of the building. The ceiling will be panneled and the center portion will have a domed ceiling light. The banking room will have in addition to the main entrance in the rotunda, a separate entrance with lobby on the upper end of the Jones street front.

At rear of banking room will be the vaults, one burglar proof and two fire proof,each to be 8x28 feet. There will be a basement under the whole structure 12 feet high.

The building will be completely fire proof. The total cost including vaults and fixtures will be about $400,000.

PERSONALS.

Charles D. Austin,"resident" architect of the Leland Stanford, Jr., University, visited the apartments of this journal a few days since.

Hans L. Schultz, civil engineer and naval architect of Philadelphia, who has concluded to make San Francisco his home, paid us a visit.

We have been pleased to find several situations for draughtsmen this month.

Burglars attempted to effect an entrance to the residence of brother B. E. Henrikson, one evening when he and his wife were attending the fair. The burglers were captured while trying to escape.

The new Chronicle building has now reached its full heighth. Mechanics are at work on the main cornices and tower.

K. Shimoda, a young Japanese architect from Tokio with the intention of learning American style of building is in town and visited our sanctum and desires a position in some local office.

Mr. E. J. Weston, the well-known architect of this city has gone to Puget Sound on business relating to the profession. He may decide to locate there permanently.

Those of our subscribers desiring the books mentioned in this journal, or any other architectural work, can have the same supplied through this office. Please make a note of this.

There is nothing like holding up your assertions with "facts." When a man or a firm can do that, all controversy as to his or their position must end. We are led up to this thought by the evidence placed before us in a new book just published by N. G. Taylor & Co., Philadelphia, as to the standing of their "Old Style" tin plate. They prove that they have laid the "Old Style" tin on 5,000 buildings, and that 50,000,000 square feet have been used without a single complaint. Such "positive proof" as they present will not go unheeded. "Facts" are stubborn things.

We solicit from architects throughout the Coast items of interest to the profession or the public. Our columns are open to the profession, and if thereby we can help them, or add to our usefulness, shall be doubly pleased. Remember that this is an architects' journal, and if you want to know what is going on here give us a chance to tell what is being done where you are.

Put the Wires Underground.

The National Association of Fire Engineers at Kansas city adopted resolutions concerning electric wires: We quote in part the conclusion.

Resolved,—That we earnestly call upon all municipal and legislative bodies, and urge the necessity of suitable legislation etc.

Resolved,—That we emphatically assert that the only safe method for currents is underground, and place our unequivocal condemnation on all overhead or suspended wires, etc.

It is said Chicago has 3,200 arc lights and every inch of the wire connecting these lights is underground. The potentiality of the current is 3,500 volts, and they work all right. It may cost more, but it is safe.

Validity of Contracts.

In the suit of Thomas Richardson vs. The College of Notre Dame, the annexed opinion was recently filed by Judge Spencer.

This is an action by the assignee of one Binet to recover the unpaid balance of the contract price for the erection of certain buildings for the defendant and for the value of extra work.

It is alleged in the complaint that on the 6th day of April, 1888, said Binet entered into a written contract with the defendant for the construction of certain buildings for the latter on its lands at Santa Clara, California.

That said contract was fully performed, the structure therein provided to be erected was completed by said Binet and accepted by defendant on the 29th of November, 1888.

That there is yet an unpaid balance of the contract price of $4,300.

That said written contract nor any memorandum thereof was never recorded in the office of the Recorder of the county where said premises are situated.

That no mechanics' or contractors' lien upon the property upon which said buildings were erected has ever been filed and the time for the filing of said lien has expired.

It is further averred that the contractor, Binet, did certain extra work on said buildings, at the instance of defendant, of the value of $1,170, which remains unpaid, and that no lien has ever been filed in relation thereto.

The prayer is for a money judgment for the sum due on the contract and the value of the extra work.

The complaint is demurred to on the ground that it does not state facts sufficient to constitute a cause of action, and the specific point urged in support of the demurrer is that by the Amendment of March 15, 1887, to Section 1183, C. C. P., the contract sued on is void, and that no action can be maintained thereon.

The provision referred to in the cited section is as follows: "In case of a contract between the reputed owner and his contractor, the lien shall extend to the entire contract price, and such contract shall operate as a lien in favor of all persons except the contractor to the extent of the whole contract price, and after all such liens are satisfied, then as a lien for any balance of the contract price in favor of the contractor. All such contracts shall be in writing when the amount agreed to be paid thereunder exceeds $1,000, and shall be subscribed by the parties thereto, and the said contract, or a memorandum thereof, * * * shall, before the work is commenced, be filed in the office of the County Recorder of the county or city and county, where the property is situated, * * * otherwise they shall be wholly void, and no recovery shall be had thereon by either party thereto."

If our attention be exclusively confined to the provisions cited, and no regard paid to the context or subject matter of the legislation therein dealt with, the question presented would be of easy solution in favor of the demurrant. But in the same chapter a subsequent section is found, which provides that "nothing contained in this chapter shall be construed to impair or affect the right of any person to whom any debt may be due for work done or materials furnished to maintain a personal action to recover said debt against the person liable therefor." Section 1197.

This section has remained substantially the same since the adoption of the codes, with the exception that the original section in addition authorized the issuance of an attachment, notwithstanding the existing lien and without impairing it.

It is insisted on behalf of the defendant that the provisions of the two sections are inconsistent with each other, and so wholly irreconcilable that they cannot stand together and both be given effect; and that section 1183, as amended, being the later enactment (the first amendment, containing the nullifying provision, was passed March 18, 1885,) repeals by implication the original Section 1197 and its amendment of March 24, 1874.

On the other hand the plaintiff contends that:

First—Section 1197, being the higher number, must prevail over the lower numbered Section 1183, in conformity with the rule prescribed in Section 4484 of the Political Code, and

Second—That the entire Chapter 2 of Title IV., in which the several provisions under consideration are found, deals exclusively with the subject of mechanics' liens and their enforcement, and that the proper construction to be given to the language found in Section 1183 is that the contract "shall be wholly void', as the basis of a lien "and no recovery shall be had thereon" in an action to enforce a lien.

In support of this contention he calls attention to the headnotes to the chapter in question and insists that the entire scope of the chapter is in relation to liens, and cites decisions by the Supreme Courts of this and other States to the effect that the title of an act, although no part of the body, may be referred to as tending to explain the intention when the language is doubtful, and that the headnotes to subdivisions of an act indicating the particular subjects treated of in the several chapters are entitled to even more consideration for that purpose. (Barnes vs. Jones, 51 Cal. 306; ex-parte Koser, 60 Cal., 198.)

The headnotes of this chapter indicate that it is devoted to "Liens of Mechanics and Others Upon Real Property,' and the whole scheme and spirit of the entire chapter is manifestly devoted to that subject, but a careful perusal of all its provisions clearly demonstrates that the Legislature was specially solicitous in the first instance to protect sub-contractors, laborers and material men who might be employed by or furnish materials at the instance of the original contractor, and as one of the means for affording them protection against the fraud or negligent conduct of both the contractor and the owner, provision was made for giving at least constructive notice of the terms of the contract by requiring it to be in writing and placed of record.

This requirement is reasonable and just and in order to make such provision effective it is competent for the Legislature to provide such penalty for its non-observance as it may deem proper, including that of declaring the contract void and prohibiting any recovery upon it.

It further occurs to me that construction contended for by the plaintiff is insufficient to satisfy all of the conditions in which the parties would be placed thereby.

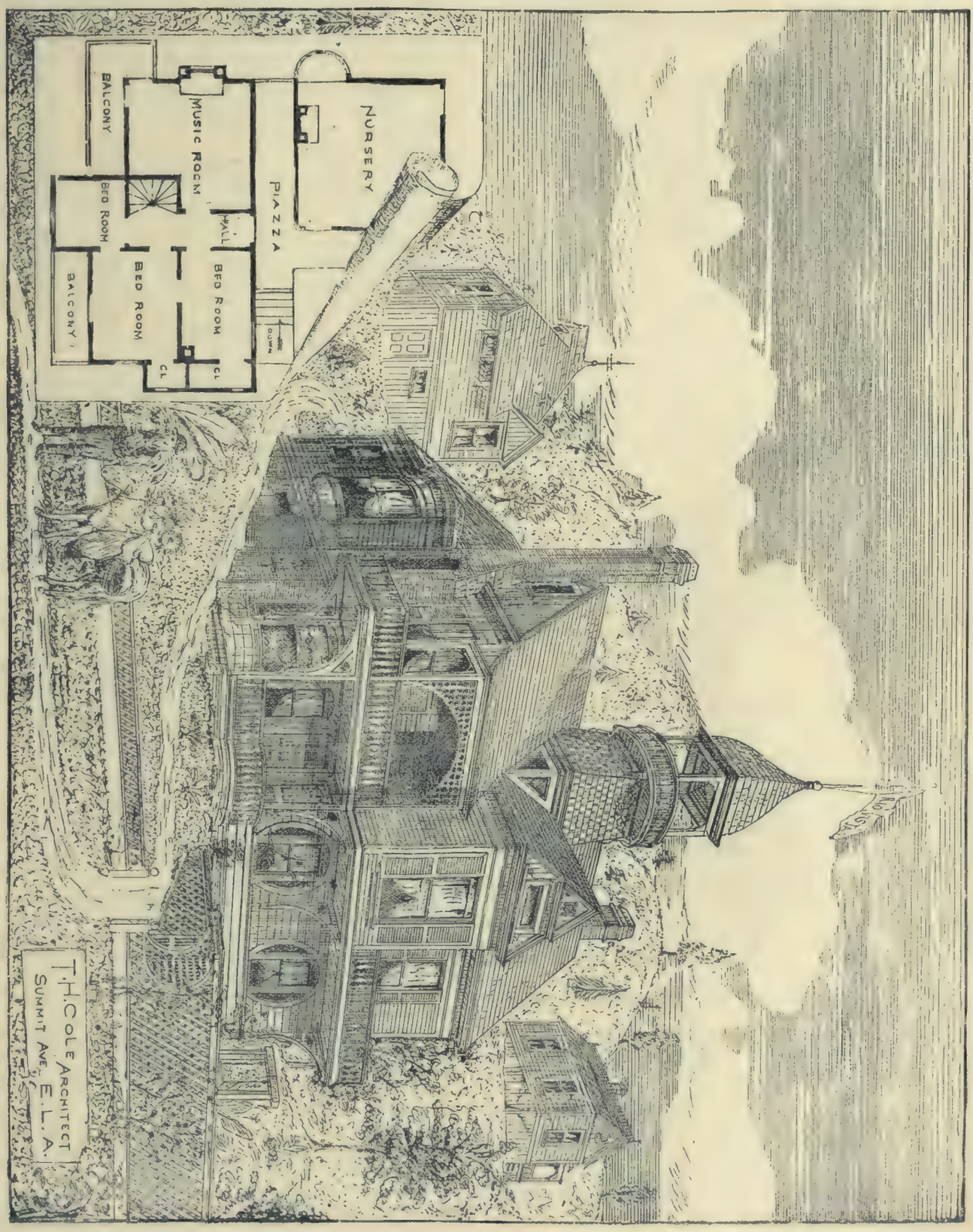
If the provision was that the contract should not be enforced against the owner, it might possibly be harmonized with the construction contended for by the plaintiff, but the declaration is that "No recovery shall be had thereon by either party thereto." That is, that not only the contractor shall not recover the contract price but the owner shall not be allowed to recover thereon for any damages he may sustain by reason of a breach on the part of the contractor.

It will be further observed that, pursuing the controlling idea, the Code provides that notwithstanding the fact that the contract was made void for failure to record it, the subcontractors, material, men, etc., are protected by allowing them to treat the derelict owner as their employer in place of the contractor who may have in fact employed them, and then give them a lien upon the property for the work preformed by them.

The right to thus hold and enforce liens by material men against the premises was recognized in the case of the Giant Powder Co vs. San Diego Flume Co., 20 Pacific Reporter, 420, a and it may not be improper to advert to the fact that Justice Thornton in delivering the opinion of the court in that case, in speaking of the effect of the failure to record the contract, says: "The section of the Statues which declares such contracts wholly void, declares how far it is void" citing Section 1138. "The statute only declares the contract void as detween the parties to it."

Although the rights of the contractor and owner as between themselves were not the subject of direct inquiry in that case, yet the validity of the contract was collaterally in question and a necessary subject for consideration, for if the coutract had been held valid and enforceable no question could have arisen as to the rights of the material men thereunder in their dealings with the contractor.

I do not deem it necessary to consider the question whether or not Section 1197 supercedes Section 1183, for the reason that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SUMMIT AVE. E. L. A.

I am of the opinion that the two sections can be harmonized and stand together.

As I have already indicated, Section 1183 should be construed as declaring that the unrecorded contract is absolulely void. Being void, it creates no liability, no debt or other obligation, it is *nudem pactum*.

Section 1197 speaks of a debt due for work done or material furnished and declares that "Nothing contained in this chapter shall be construed to impair or affect the right" to maintain an action to recover such debt.

But it is obvious that if the contract and its performance does not create a debt, we must look elsewhere for the subject of the action preserved by the last cited section.

This, I think, is readily found in the implied agreement arising from the performance of the labor by the builder or so-called contractor, and the acceptance of such labor by the owner.

I think it is reasonable and just to hold that the contract being void and not enforcible by either party, that there should be no obstiacle to the operation of the implied contract to pay; not a specific sum for a specified labor, but to pay the reasonable value of the services rendered by one party and accepted and enjoyed by the other.

I am therefore of the opinior that the second count which sets forth a claim for extra work, outside the written contract, and seeks to recover the reasonable value thereof, states a good cause of action, and that the demurrer thereto should be overruled.

For the reasons already indicated, I think the demurrer to the first count should be sustained, and it is so ordered, with leave to plaintiff to amend his complaint and count on a *quantim meruit* for the labor performed in the erection of the buildings if he shall so elect.

The Annual Meeting of the Stockholders of the California Architectural Publishing Company will be held in the rooms of the company at No. 408 California street on Tuesday, November 5th, 1889, at 10 A. M., to hear the report of officers, elect directors for the ensuiug year and transact such other business as may properly come before the meeting.

W. P. Moore, President. Oliver Everett, Secretary.

San Francisco, Cal., Oct. 12, 1889.

WASHINGTON ITEMS.

On account of the heavy rain on the latter days of September, the brickyards of Washington Territory are quite all shut down and the making of bricks cannot be commenced until near May 1st, 1890. The price offered now for bricks, is now about $14, and a manufacturer near Seattle refused $14 for 200,000 although he had 2,500,000 on hand, but he needed those for contracts made in Seattle at less prices.

Already 1,000,000 bricks have been used on the new Denny hotel in the basement, and 2,000,000 more will be required. The basement walls of this hotel, if placed in a straight line, it is said, would reach nearly a mile in length.

The Rainer hotel at Seattle is nearly roofed in, and Diller's hotel is up to the first story.

At Ellensbrugh, eighty-four new brick stores are going up and a stone banking house.

Speaking of brick, we understand several of the manufacturers will put in dry kilns before the next season commences so that nature may not compel them to stop on October 1st, of every year.

The Builders Material Company, is putting a new pressed brick machine on Vashon Island, which will turn out 20,000 bricks a day and they have a plain brick machine already in operation

Building in Seattle and Spokane is going on at a lively rate, some 600 to 800 dwellings being in construction at the present time at Seattle. These houses will cost all the way from $1,000 to $2,000, and seldom over $4,000,

We would infer from the newspapers of Seattle that the architects who competed for the plans of a new courthouse for King county were not fully alive to the peculiar necessities of such an institution,and that a Board of Commissioners had been found up there who knew just what King county wanted. Something like sixteen plans were submited in competition with estimated cost running from $175,000 to $200,000 and all were rejected—rejected because the plans were not suitable for King county. The motion to reject was certainly not very complimentary to the architects engaged, but then, the Board may have desired to show what they know about architecture.

Query: Is it possible that sixteen different architects, or firms, were each and all so deficient in the knowledge of what was required of them that it takes the plans of the sixteen to make an acceptable design.

We think this emphasizes what we have sometimes said, that it would be far better to place the acceptance or rejection of designs for public work in the hands of a competient committee of duly qualified architects. When this shall be the rule there will be a great advance in these buildings.

As a result, architect W. A. Ritchie is set to work making plans from the rejected "Greek" plans, changing it from a two-story and basement to a three story and basement building. The appearance of the new courthouse will suggest the Ionic style as intended. The basement will be of cut stone and the first and second stories of brick with stone trimmings. Seattle is looking forward to an imposing structure, that will be known the moment you look at it, and be taken for a real genuine courthouse as well as one that will not burn up on the slightest provocation.

REVIEWS.

We have received from Wm. T. Comstock, Part IX of his architectural studies, (city houses). This number illustrates the best designes submitted in a competition given by *Building*, for the planing of a home for a professional *literateur*, and contains several excellent solutions of the problem. Price, one dollar, postage paid.

The Brickmaker a semi monthly publication at Chicago. Price, $1 per year. As the name indicates, its columns will be entirely in the interest of the brickmaker and his bricks. In this connection we notice one very sensible article on the "Nomenclature of Bricks" and the suggestion that the matter be settled at the convention to be held in Philadelphia next December.

The Canadian *Architect and Builder* publishes a very caustic criticism on the "abuse" of the inverted arch. The criticism, though written in an "inverted" style of composition, is nevertheless effective in pointing out the possible failure of such an arch when not constructed on scientific principles, and the supervising architect is not fully alive to the importance of its use.

Preliminary Notice.

The joint Convention of the American Institute of Architects will be held in Cincinnati, opening on Wednesday, 20th of November next, at 10 A. M.

The annual reports to and of each organization shall be read, and the Constitution and By-laws recommended for the reorganized Institute by the joint Committee on Consolidation, appointed by the two bodies, will be submitted for the final action necessary to consummate unification.

This will be followed by the reading and discussson of professional papers.

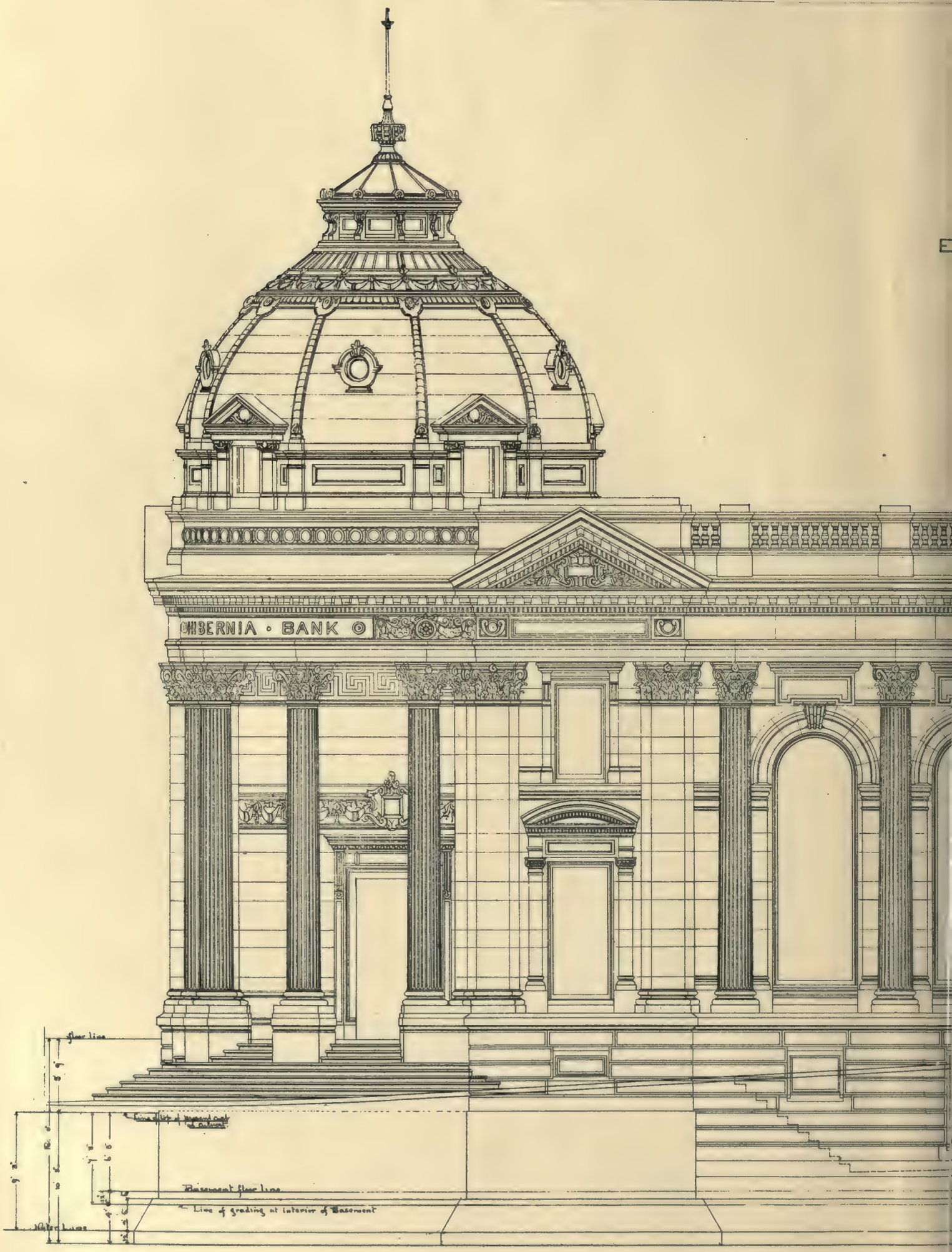
An exhibition of architectural illustrations, under the direction of the Cincinnati Architectural Club, will occur simultaneously with the Convention, viz: Tuesday, November 19th, to which all the members of both existing organizations are cordially invited.

Before the close of the convention, opportunities will be afforded for the inspection of the prominent and interesting structures of the city, finished or in process of erection.

Members of either existing organization, having communica tions or papers of interest to the professsion, which they propose to submit to the joint Convention, should forward them to the appropriate Secretary before the 1st November ensuing.

Full particulars will be forwarded, in due course, to the members, alike of the existing Western Association of Architects and American Institute of Architects.

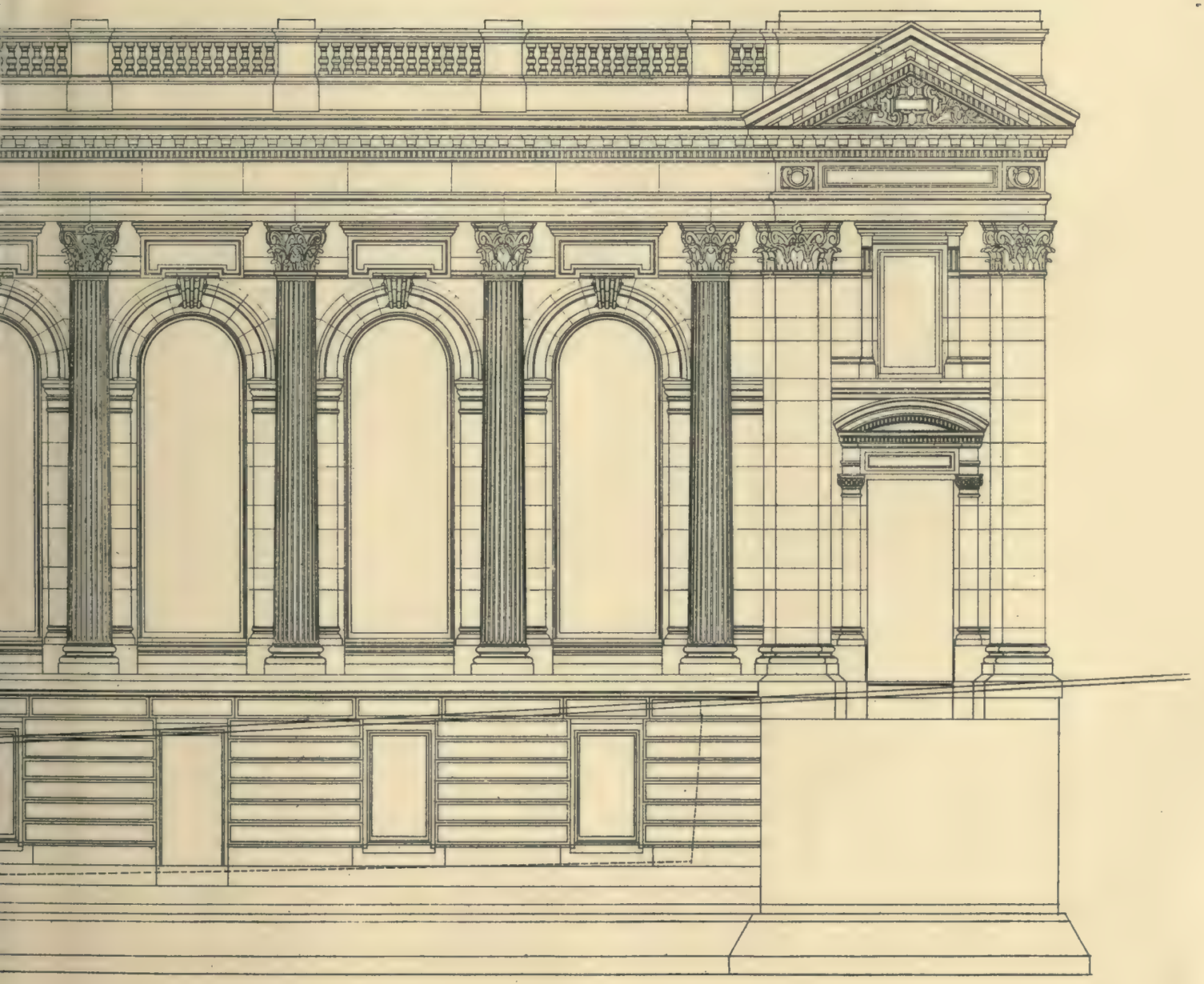
Joint Committee of Arrangements: E. H. Kendall, Chas. Crapsey, N. S. Patton, Secretary W. A. A., 44 Montauk Block, Chicago. A. J. Bloor, Secretary A. I. A., 18 Broadway, N. Y. September 19th, 1889.


HIBERNIA • BANK
floor line
Basement floor line
Line of grading at interior of Basement

HIBERNIA BANK

VATION ON JONES STREET

PISSIS AND MOORE . ARCHITECTS

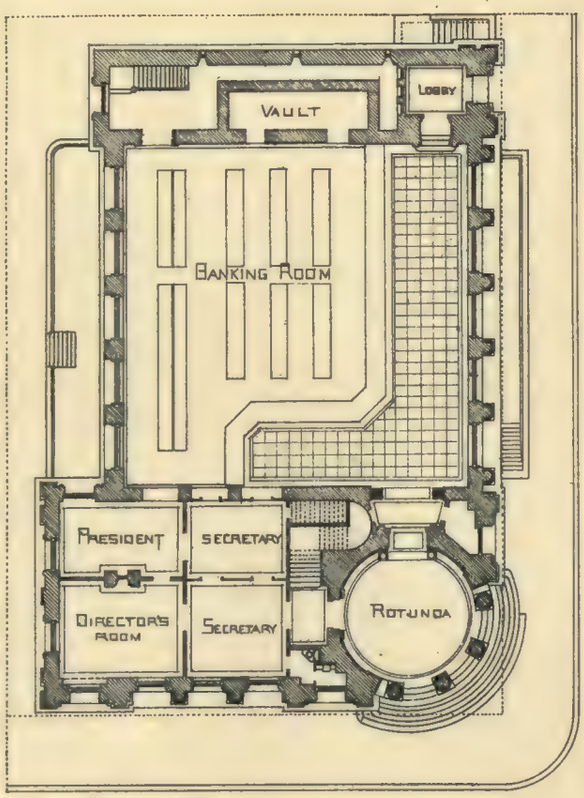


San Francisco, Cal.

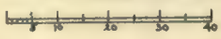
HIBERNIA BANK

ELEVATION ON McALLISTER STREET

PISSIS AND MOORE. ARCHITECTS.



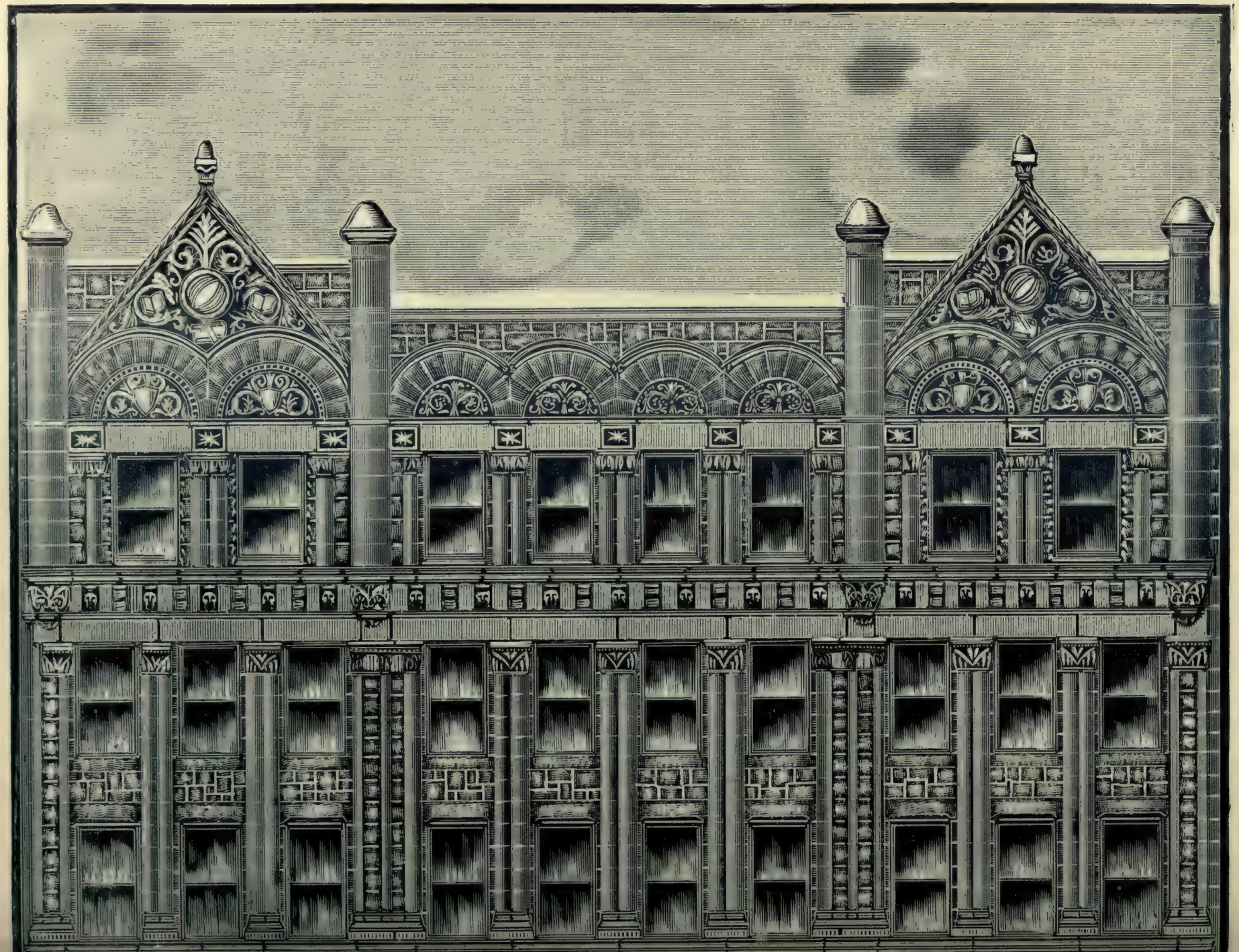
McALLISTER STREET

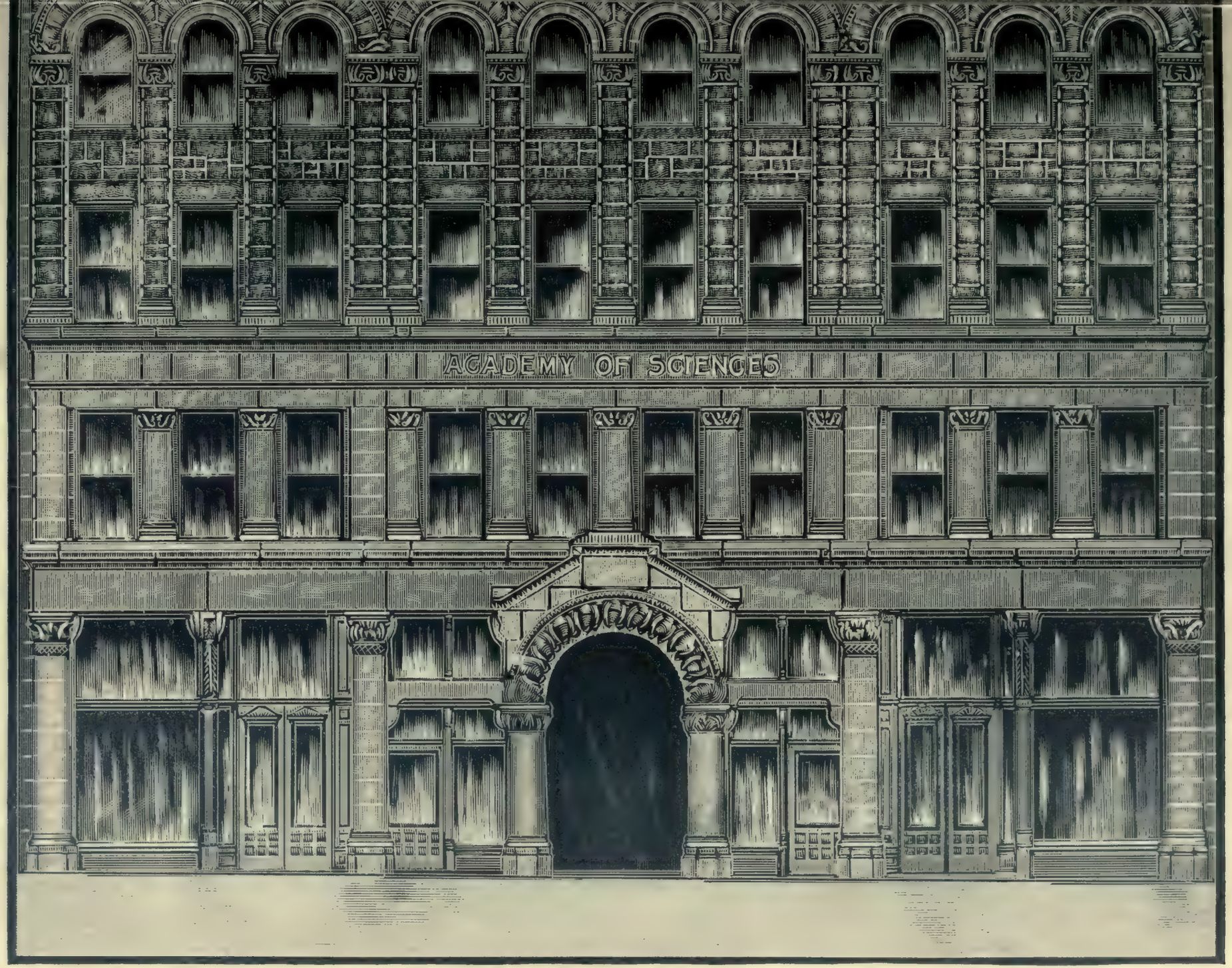


PISSIS AND MOORE ARCHITECTS

HIBERNIA BANK
First floor line
Line of natural earth at entrance
Basement floor line
Line of grading at entrance of Basement

San Francisco, Cal.





THE NEW BUILDING FOR THE CALIFORNIA ACADEMY OF SCIENCES, SAN FRANCISCO, CAL.

PERCY & HAMILTON, ARCHITECTS.

CITY BUILDING NEWS.

Austin and Gough. Owner, Alice Kennedy; architect, James E. Wolfe; contractors, Gray & Stover; signed September 26; filed September 27; cost, $6 600; grading, artificial Stone pavement; payments. $1,600, piers are done; $275, compl ted; $ 25, 35 days.

Broderick, between Haight and Waller. Owner, W. E. Dennison; contractor. F. W. Kern; surety, Behrend Joost; signed Sept. 18; filed Sept. 20: cost, $4,855 100 days: 2-story frame: payments, $1,200 ready for lathing; $1 200 hard finished; $1,200, completed; $1,255, 35 days.

Broadway and Gough. Owner, Amelia L. Leszynsky: architect, J. Marquis; contractor, C. Coady: signed Sept. 12: filed Sept, 21; cost, $4,525; to build: payments, $600, framed; $800, floors laid; $900, brown-coated; $1,075, completed, $1,150, 35 days.

Bush and Baker. Owner, Chas. W. Kenitzer; architect, Kenitzer & Kollofrath; contractor, A. Miller; sureties, Chas. F. Dce and John C. Roberts, $3,000; signed September 24; filed, September 25; cost, $6,650; December 20, 1889; Two-story frame; payments, $1,000 framed; $2,000, roofed; $1,600 ready to paint; $400, completed; $1,650, 35 days.

Broderick and Haight. Owner, Wm. W. Bishop; architects, Townsend and Wyneken; contractor, R. O. Chandler; signed, September 24; filed September 26; cost, $5,477; painting; payments, $500, outside first coat and inside second coat is on; $500, outside second coat and inside last coat is on; $750, accepted.

Brine, between Howard and Folsom. Owner, John Wyhs and wife; architect, Fred Weinoehl; contractor. Fred Weinoehl; signed, Sept. 4; filed, Sept. 4; cost, $3,950, 90 days, carpenter work; payments. $500 framed; $300 under roof, etc; $400 brown mortared; $70C white mortared; $560 50 completed; $987 50, 35 days.

Bluxome, between Fourth and Fifth. Owner, Mrs. M. F. S. Searles; architects, Schulze & Meeker; contractor, John T. Grant; cost, $1,175; signed, September 7; filed, September, 11; 25 days complete a stable; payments, $881, completed; $294, 35 days.

Clara Lane, bet. Bush and Butte. Owner, F. Lemme; architect, P. R. Schmidt; contractor, C. Chisholm; sureties, James Conlin and J. J. McKinnon; signed, Sept. 28; filed, Sept 30; cost, $11,700; 95 days, 3-story brick; $2,200 second story joists laid; $2,200 topped; $2,200 basement floor laid; $2,100 completed; $3,000, 35 days.

California and Broderick. Owner, Mrs. H. B. Healey; architect C. C. Morehouse; contractor, James Campbell: signed Sept. 30; filed Oct. 5; cost, $4,220; Jan. 1, '90; to build; payments, $900, roof-boards on; $1,020, sashes set; $1,250, completed; $1,060, 35 days.

Clay and Hyde.. Owner, Martha McL. Ewer; architect, Clinton Day; contractor, George V. Hussey; signed Oct. 1: filed Oct. 2; cost, $7,900; to build; $1,100 sheathed; $1,400 chimneys built: $900, prime coat of paint on; $1,000, inside ready for painter; $1,525, completed; $1,975, 35 days.

Clinton Park and Dolores street. Owners, Henry Pregge and wife; architect, Bernard Dreyer; contractor, Bernard Dreyer; signed Oct. 1; filed Oct. 2; cost, $5,500; 90 days; 2-story frame; payments, $1,375, framed; $1,375, brown mortar on. $1,375, white mortar on; $1,375, completed.

Church and Army. Owner, F. F. Speckman; architects, John & Balczynski; contractors, Schutt & Krecker; signed Sept. 28; filed Oct. 2; cost, $4,665: 2-story frame and stable; payments, $800, framed; $800, partitions set; $1,000, outside finish on; $900. inside ready to paint; $1,165, 35 days.

Cor Baker and Vallejo. Owner, H. R. Hopps; contractor, J. A. Rommel; sureties, F. and M. Marcuse, $1,500; signed, Aug. 29; filed Sept. 14; cost, $2,250; Jan. 15, '90; to build; payments, $562 50, framed; $562.50, brown coated; $562.50 completed; $562.50, 35 days.

Capp, between 22d and 23d. Owner, Mary E. Von Schroder architect T. J. Welch; contractors, Brennan & Fladung. signed September 27th; filed September 28; cost $6,100; 24 days; payments Painting, &c; 75 per cent. as work progresses balance.

Clayton, near Page. Owner, Frederick Bryan and wife; architecs, John T. Kidd; contractor; John Bruce; signed, Sept. 4; filed, Sept. 4; cost, $2,145, 70 days payments, $600 framed; $500 plastered; $300 white coated, etc; $209 completed; $536, 35 days.

Church near 21st. Owner, S Stemmer; architect, Wm. Mooser; contractor, A. C. Rogers; sureties, C S. Holmes and H. C. Simmers, $2,500; signed September 14; filed, September 23; cost, $3,900; frame building; payments, 75 per cent as work progresses; balance, 35 days.

Eddy, bet. Fillmore and Steiner. Owner, S. F. Laundry Ass'n; architect, Percy & Hamilton; contractor, Richardson & Gale; signed, Sept. 26; filed, Oct. 1; cost, $1,795; chimney 100 feet high; 75 per cent. on completion; bal. 35 days.

Ellis and Levenworth. Owner, A. C. Heinken; architects, Townsend & Wyneken; contractors, The Gray A. S. P. Co.; signed, September 24; filed September 26; cost, $2,500; two dwellings; payments, $900, enclosed; $1,000, water pipes in; $1,000 inside hard finished; $1,000, completed; $1,300, 35 days.

Ellis and Polk. Owner, P M. Flood, architect, Wm. F. Smith; contractor, F. W. Kerr; cost. $6,880; signed Sept. 4; filed Sept, 13; $1,290 framed; $1,290 ready for plastering, $1,290 ready for painting; $1,290 completed; $1,720, 35 days.

Eddy and Larkin. Owner; Sacred Heart College; architects, John J. Clark; contractor, George Goodman; signed, Aug. 22; filed, Aug. 31; cost, $200, artificial stone sidewalk, etc: payments, 75 per cent. as work progresses, balance, 35 days.

Eddy and Laguna. Owner, Maurice Getz; architect; John Gash; contractors, Rohling & Crawford; sureties, F. Joost and Humboldt Mill Co.; cost, $7,600; signed Sept. 6; filed Sept. 11; two houses; payments, $1,500 framed; $1,000 brown mortared; $1,100 white mortared; $1,110 outside finish on; $1,100 completed; $1,900, 35 days.

Eighteenth street, near Clover Alley Owner, Johanne Petsch contractor, J. C. Brown; signed, Sept. 7; filed, Sept. 7 cost, $1,010; payments, $250 framed; $300 all frames set $250 white coat plaster; $210 completed.

Fourth and Townsend. Owner, Mary K. Knoll; architect, M. J. Walsh; contractor, M. C. Lynch; signed, Sept. 19; filed, Sept. 30; cost, $13,858; to build; $3,464 50 roofed, $3,464 50 first coat of mortar is on; $3,464 50 completed; $3,464 50, 35 days.

Folsom and Caroline. Owner, John Tamoung; architects, Townsend & Wyneken; contractors C. A. Naherty; cost, $3,780; signed Sept. 11; filed Sept. 12; 3-story frame; payments, $1,400 framed; $1,780 brown-coated; $1,700 white-coated; $1,700 completed; $2,200, 35 days.

Folsom near 11th. Owner, Chas. Bogan; atchitect, James P. Chadwick; contractor, Mayder & Green; sureties, Matthew Harris and Hugh B. Jones. $4,000; signed, September 23; filed, September 24; cost, $6,700; 90 days, four flats; $1,256.25, roofed; $1,256.25, brown coated; $1,256.25, outside finish on; $1,256,25, completed; $1,675, 36 days.

15th. near Castro Owner, John Dolan; contractor, A. J. McKee; signed, Aug. 15; filed, Sept. 4; cost, $2,400, Nov. 20, '89, two story house; payments, $700 inclosed; $700 brown coated; $1 000 completed.

Folsom and 23d. Owner, P. H. Bielenberg; architect, W. Winterhalter; contractor, George W. Farnum; sureties, F. Joost and W. Thyarks; cost, $5,600; signed Sept. 13; filed Sept. 13; 90 days; 2-story frame; payments, $1,200 enclosed; $1,000 brown-mortared; $1,000 hard finish on; $1,000 completed; $1,400, 35 days.

Folsom, corner of 2nd and Dow Place. Owners, Boyd & Davis; architect. Jno. M. Curtis; contractor, H. W. Hannemann; sureties, Chas. Schroth and M. Shotwell. $2,000; signed, September 26; filed September 28; cost, $2,868; to build; payments, 75 per cent. as work progress; balance, 35 days.

Folsom, between 13th and 14th. Owner, Geo. Schafer; contractor, F. L. Hansen; signed Sept. 13; filed Sept. 17, cost, $7,875; two 2-story frames; payments, $1,500 framed; $1,000 enclosed; $1,500 rough mortared; $1,875 white mortared-$2,000, 35 days.

Greenwich and Taylor. Owner, Maria San Pedro; architect B. E. Henriksen; contractor, Robert Currie; signed Sept 16; filed Sept. 17; cost, $9,100; three 2-story frames; payments, $1,705 roofed; $1,705 brown coated; $1,705 white-coated; $1,705 trimming on; $2,280, 35 days.

Geary and Octavia. Owner, Francisca E. de Los M de Smith; contractor, Geo. E. Voelke; contractor, F. Klatt; sureties, Behrend Joost and J. F. Kennedy, $8,000; signed Sept. 14; filed Sept. 19; cost, $11,340; 2-story frame; payments, $500 first-story joists are on; $1,700, plumbing done; $2,500 brown coated; $2,50 second coat of plaster is on; $1,200 accepted; $2,840, 35 days.

Geary and Devisadero. Owner, August Brune; architect, Emil John; contractors, Schutt & Krecker; cost, $4321; signed Sept. 6; filed Sept. 10; 2-story frame; $800 framed; $700 enclosed; $800 white coated, $921 completed; $1,100, 35 days.

Green and Octavia. Owner, C. M. Symonds; architect, S. C. Warden; contractor, R. Rechenbach; et al; sureties, A. L. Turner and Fridolin Ott, $2,000; signed, Sept. 7: filed, Aug. 31; cost, $2 142, Nov. 14, '89—To Build; payments, $500 enclosed; $500 brown coated; $500 completed; $642, 35 days.

Harrison, between 23d and 24th. Owner, L. M. Kennedy; contractor, F. Nelson; signed, Sept. 4; filed, Sept. 5; cost, $1,380, one-story cottage; $700 first coat of mortar is on; $680, 35 days.

Hayes, between Gough and Octavia. Owner, G. Hildebrandt; architect, G. Hildebrandt; contractor, Chas. Quinn; signed, Sept. 4; filed, Sept. 4; cost; $5,950, 100 days, three-story frame; payments, $1,850 brick work done; $1,850, brown coated; $1,850 white coated; $1,900 completed; $2,500, 35 days.

Howard, between 22nd and 23d. Owner, Mary E. Von Schroeder; architect, T. J. Welch; contractor, James McInery; sureties, Preston & McKinnon, $25,000; signed Sept. 14; filed Sept. 17; cost, $76,887; 5 months; brick and carpenter work for two 3-story buildings; payments, 75 per cent. monthly as work progresses, balance, 35 days.

Howard, between 22nd and 23d. Owner, Mary E. Von Schroeder; architect, T. J. Welch; contractors, Duffy Bros.; sureties, Wm. Cronan and M. H. De Young, $5,000; signed Sept. 14; filed Sept. 17; cost, $16,275; plumbing and gas fitting; payments, 75 per cent. per month as work progresses; balance, 35 days.

Howard, between 22nd and 23d. Owner, Mary E. Von Schroeder; architect, T. J. Welch; contractor, James W. Smith; sureties, John Coop and B. Joost, $25,000; signed Sept. 14; filed Sept. 17; cost, $64,477; 5 months; plastering and electric work; payments monthly, 75 per cent. of value of work done; balance, 35 days.

Howard, between 22nd and 23d. Owner, Mary E. Von Schroeder; architect, T. J. Welch; contractor, Wm. Cronan; sureties, Geo. Duffy and W. H. Mahoney, $1,500; signed Sept. 14; filed Sept. 17; cost, $6,995; tin work; payments, 75 per cent. as work progresses; balance, 35 days.

Howard, between 22nd and 23d. Owner, Mary E. Von Schroeder; architect, T. J. Welch; contractor, Bernard Bradley; surety, A. Bernard, $2,500; signed Sept. 14; filed Sept. 17; cost, $10,290; painting and varnishing; payments, 75 per cent. as work progresses; balance, 35 days.

Hyde, between Green and Union. Owner, Julius Kanngeiser; architect, Geo. R. Bowles; contractor, Geo. R. Bowles; signed Sept. 18; filed Sept. 19; cost, $3,100; 2-story house; payments, $600 framed; $600 ready for lathing; $600 plastered; $600, ready for painting; $700, completed.

Hermann and Webster. Owner, Mathias Jobst: architect, R. Zimmerman; contractors, Fuchs and Bucher; signed Oct. 1; filed Oct. 1; cost. $7,593; Jan. 15, '90; 2-story frame: payments, $1,425, framed; $1,425, partitions set; $1,425, ready for painting; $1,425, accepted; $1,893, 35 days.

Howard, bet. 3d and 4th. Owner, Mary J. Morrow; architect, W. H. Armitage; contractor, Jas. R. Whalen, signed Oct. 1; filed Oct. 1; cost, $5,500; 80 days; 3-story frame; payments, $1,000 framed; $1,125, brown-coated; $1,000, white-coated; $1,000 completed; $1,375, 35 days.

Hermann street, and Elgin Park, Owner, Emil Woenne; architect, R. Zimmermann; contractor, Brennan & Fladung; signed, September 18; filed, September 25; cost, $1,650; brickwork for four 3-story frames; $850 foundation in; $500, chimney tops set; $300, 35 days.

Herrnann street near Elgin Park. Owner, Emil Woenne; architect, R. Zimmermann; contractor, F. V. Steinmann; signed September 18; filed September 25; cost, $19,400; brick and carpenter work; four 3-story frames; $1,000 first floor joists laid; $1,000 first story frame up; $1,000 second and third story frames up; $1,000.

Herrmann street, near Elgin Park. Owner, Emil Woenne; architect, R. Zimmermann; contractor, Chas. M. Depew; signed September 18; filed September 25; cost, $4,250; roofed; $1,500 floors laid; $2,400 outside finish on; $2,000, glazed, etc.; $2,000 accepted; $5,500, 35 days.

Herrmann street, near Elgin Park. Owner, Emil Woenne; architect, R. Zimmermann; contractor, Louis Hufschmidt & Bros.; signed September 18; filed September 25; cost, $2,162; mill work; $800 outside finish is on; $800 inside finish is on; $800 blinds hung; $800 accepted; $1,050, 35 days.

Herrmann street near Elgin Park. Owner, Emil Woenne; architect R. Zimmerman; contractor, August Fick; signed September 18; filed September 25; cost, $1,750; plumbing, etc.; $800. first certificate is delivered; $800, second certificate is delivered; $562 accepted.

Howard near 17th. Owner, Ulrich Remensperger; architect, W. Winterholter; contractor, Theo Von Borstel; sureties, F. Joost and D. Woerner; signed, Sept. 3; filed, Sept. 4; cost, $5 149; payments, $1,200 enclosed; $1,200 brown coated; $1,000 hard finish is on; $1 200 completed; $1.549, 35 days.

Ivy avenue, between Buchanan and Webster, Owner, F. Siefke; architect, P. R. Schmidt; contractor, J. O'Connell; sureties, J W. Leahy and J. Molony; signed, September 16; filed, September 25; cost, $3,700; 80 days; two-story frame; payments, $925, rough plumbing done; $925 hard finished; $925 completed; $925, 35 days.

Jackson and Larkin. Owner, Mary H. Barrington; architect, Geo. Barrington; contractor, James C. Bassett; sureties; A. Kendall and James I McKinnon, $3,000; signed, Sept. 6; filed, Sept. 7; cost, $5,700, 90 days to build; payments $1 068 75 framed; $1,068 75 brown coated; $1,068 75 outside is painted; $1,068 75 completed; $1,425, 35 days.

Kearny and Pine. Owner, Moses Rosenbaum; architect, Salfield and Kohlberg; contractor, Richardson & Gale; signed. Aug. 29; filed, Sept. 4; cost. $2,500. 90 days, carpenter work; payments, $2,500 completed,

Kearny and Washington. Owner, Louis Achultz; architect, Wm. Mooser; contractor, Wm. H. Birch & Co.; signed September 6; filed September 23; cost, $1,720; elevator; payments, 75 per cent as work is done; balance, 35 days.

Laguna and Lumbard. Owner, G. Filipelli; architect, Emile Depierre; contractor, J. G. Chase; surety, A. Bennett, $800; signed September 21; filed September 23; cost, $1,585; 60 days frame building; payments, 75 per cent. as work progresses; balance, 35 days.

Lyon near McAllister. Owner, Adolph Goehing; architect, John & Balrzynski; contractor, Fuchs & Bucher; signed, Sept. 2; filed, Sept. 4; cost, $4,000, two cottages; payments, $800 framed; $600 enclosed, etc; $800 white coated; $800 completed; $1,000, 35 days.

Larkin and Pine. Owner, A. Browning; architects, Kenitzer & Kollofrath; contractor, C. F. Ruppell; sureties, Christian Helwig and William Muche, $5,000; signed Sept. 30; filed Oct. 4; cost, $9,922; Jan. 30, '90; two 2-story frames; payments, $1,500, framed; $1,500, roofed; $1,500, first coat of plaster is on; $1,200, plastering finished; $1,742, completed; $2,480, 35 days.

Maple and California. Owner, Childrens' Hospital; architects, B. McDougall & Son; contractor, A. Jackson; signed Oct. 2; filed Oct. 2; cost; $2,075; 1-story frame; payments, $1,000, brown mortar on; $556.25, completed; $518.75, 35 days.

Main, bet. Mission and Howard. Owner, The Pelton Water Wheel Co; architect, Percy & Hamilton; contractors, Ransome & Cushing; signed, Sept. 27; filed, Sept. 30; cost, $770; concrete work; 75 per cent. as work progresses; bal. on completion.

McAllister, between Fillmore and Steiner. Owner, E. F. Baruth; architect, P. R. Schmidt; contractor, A. McKay; sureties, Henry Goetze and C. A. Bennett; signed Sept. 18 filed Sept. 19; cost, $6,200; Dec. 14, '89; 2-story frame: payments, $1,150, framed; $1,150, rough plumbing in; $1,150 hard finished; $1,200, completed; $1,550, 35 days.

McAllister and Jones. Owner, Hibernia Savings and Loan Society; architects, Pissis & Moore; contractor, O. E. Brady; cost, $177,009; signed Aug. 31; filed Sept. 18; stone work of new bank building; payments in installments on the 1st and 15th of month as work progresses, in sums equal to 75 per cent of work done; balance, 25 per cent. when work is completed.

Mason. Owner, E. Betger; architect, E. Betger; contractor, J. P. Hansen; signed Aug. 13; filed Sept. 14; cost, $1,800; 60 days; to build; payments, $450 framed; $400 first coat of plaster is on; $500 completed; $450, 35 days.

Natoma, between 11th and 12th. Owner, Wm. Schehr and wife; contractor, A. C. Rogers; sureties. C. S. Holmes, $2 000; signed, Sept. 5; filed, Sept. 6; cost, $4,500, three-story frame; payments, $1 500 framed; $1,000 brown coated, $1,000 hard finish is on; $1,000, 35 days.

Owner, S. S. & N. P. R'way Co.; contractors, Hinckl y, Spiers & Hayes; cost; $79,900; signed Sept. 5, filed Sept. 10; 9 month2; machinery for steamer; payments, 75 per cent. to be paid as work is done; balance, 25 per cent., 35 days after completion.

Owner, S, F, & N. P. R'way Co.; contractors, Dickey Bros.; cost, $45,250; signed Sept. 5; filed Sept. 10; 6 months to build steamer; payments, 20 per cent. boat is in frame; 20 per cent, keels on, etc.; 20 per cent deck is in, 15 per cent deck is laid. 25 per cent, 35 days.

Oak, between Franklin and Gough. Owner. F. Hofleng architect, P. R. Schmidt; contractor, Wm. T. Commery; sureties, E. H. Greenwald and M. Cohen; signed Sept. 19; filed Sept. 20; cost, $23,836; 120 days: 3-story f ame; payments, $2,836, first story up; $3,000, enclosed: $3,000; ready to lath; $3,000, brown-coated; $3,000, hard-finished; $3,000, completed; $6,000, 35 days.

Oak and Steiner. Owner, P. Tillaux; architect, M. J. Welch; contractor, R. Parker; cost, $4 350; signed Sept. 12; filed Sept. 12; to buil'd; payments, $1,087.50 framed; $1,087.50 brown mortar is on; $1,087.50 completed; $1,087.50, 35 days.

Owner, John Talfourd; contractors, Mullins Bros.: sureties, ames Alexander $950; signed Sept. 26; filed Oct. 5; cost, $950; Nov. 28, '89; additions: payments, $350, framed; $250, plastered; balance in installments of $30 until all payments are made.

Page near Pierce. Owner, John H. Brundings; architect, Chas. I. Hav ns; contractor, F. W. Kern; signed, September 24; filed September 26; cost, $5,200; 2-story frame; payments 25 per cent. framed; partitions set; 25 per cent. inside finish complete; 25 per cent., 35 days.

Page, near Scott. Owner, Robert V. Lucy; architects. John & Balczynski; contractors White Bros.; signed Sept. 13; filed Sept. 17; cost; $5,360; 3-story frame; payments, $1,200 framed; $1,500 rough mortared; $1,320 completed; $1,340, 35 days.

Po t and Octavia. Owner, W. H. Adams; architect, Wm. H. Armitage; contractor; O. E. White; sureties, Chas. F. and Frank P. Doe, $10,000; cost, $13,000; signed Sept. 3; filed Sept.. 11; 100 days, two 2-story frames; payments, $2,5 0 framed: $2,500 brown-coated; $2,250 white-coated; $2,500 finished; $3,250, 35 days.

Perrin and Steiner. Owner, Mary F. Kennedy; contractor, J. P. Shepard; signed, Sept. 3; filed Sept. 4; cost $2 400; 75 days, to build; $600 enclosed; $600 brown mortared; $600 completed; $600, 35 days.

Pacific and Octavia. Owner, B. J. Hoffarker; architect, John & Balrzynski; contractor, Wm. Pluns; signed. Aug. 31; filed, Sept. 4; cost $8 970; payments; $2,000 framed; $1,500 enclosed; $1,500 white coated; $1,720 completed, $2 250, 35 days.

Page near Scott. Owner, J. Peterson; architect, R. H. White; contractor, W. Pluns; sureties, F. Joost and D. Woerner, $4,000; sig ed, Sept. 4; filed, Sept. 5; cost, $5,690, 90 days; $900 fr med; $700 enclos.d; $700 brown coated; $800 standing finish is on; $590 completed; $2,000, 35 days.

Pacific, near Steiner. Owner, James Stewart; architect, Wm. F. Smith; contractor, Richard Rice; signed Oct 2; filed Oct. 2; cost, $2,565; plumbing; payments, $960.50, rough plumbing in; $960.50, comp eted: $644, 35 days.

Prosper near 16th. Owner, Brusa Aschile; contractor, L. Cuneo, et al; signed, Sept. 27; filed, Sept. 30; cost, $1,675; 1-story frame; $418 75 framed; $418 75 brown coated; $418 75 finished; $418 75 35 days.

Pacific, near Steiner. Owner, James Stwart; architect, Wm F. Smith; contractor, F. W Kern; signed Oct. 1; filed Oct. 2; cost, $19,270; three dwellings: payments, $2,890.50, framed; $2,890.50, shingled; $2,890.50, brown-coated; 2,890.50, stai diug finish is up; $2,890.50, completed; $4,817.50, 35 days

Pacific and Laguna. Owner, D. F. Walker; architect, Wm. F. Smith; contractor, James H. O'Brien; signed Oct. 2; filed Oct. 2; cost, $1 790; 25 days; grading a lot; payments, first payment, $671.25; second, $671.25; third, $447.50.

Pine and Devisadero. Owner, W. C. Hildebrandt; architects, J. J. and T. D. Newsom; contractor, F. C. Adams; sureties, Wm. Van Noordén and M. P. How , $4,000; signed Oct. 1; filed Oct 3; cost, $4 958, Jan. 1, '89; to build; payments, $929.50, framed; $929.50, chimneys built, etc.; $800 stable built, etc.; $1,059, completed; balance, 35 days.

Ritch & Folsom. Owner, G: Mounicot; contractor, A. McKay; sureties. A. J. Turner & E. Gill, $2,000; cost, $,4,000; signed Sept. 11; filed Sept. 12; N v. 1, '90; 2-story frame; payments, $800 first floor of joists are on; $800 framed; $800 brown-coated; $800 ready to paint; $800 completed; $1,000, 35 days.

Seventh and King. Owner, Eagle Oil Refining Co.; contractors, Riley & Loane; signed, Sept. 13; filed Sept. 14; cost $1,500; 15 days; warehouse; payments, $1,125 completed; $375, 30 days.

Sixth and Stevenson. Owner, Margaretha Schewrdt; contractor, J. S. Ecker; signed, Sept. 14: filed Sept. 16; cost, $1,025; foundation wall; payments, the first two payments as work progresses; bala ce when completed.

Stenart & Miss'on. Owner, Ernest Brand; architect, H. Geilfuss; contractors, Schutt & Krec er; cost, $9,983; signed Sept. 7; filed Sept. 11; 3-story brick; payments, $1280 first-st ry joists laid; $1,870 fire walls topped; $1,870 brown coated; $1,873 completed; $2,500, 35 days.

Sanchez and 16th. Owner, Hannah Donlan; architect, Patrick Dolan; contractor, Rohling & Crawford; cost, $4,825; signed Sept. 10; filed Sept. 11; 90 days; 3-story frame, payments, $900 framed; $900 ready for plastering; $900 windows in; $950 completed; $1,225, 35 days.

Sixteenth & Sanchez; Owner, D. Meyer; architect, Geo. E. Voelkel; contractor, F. Klatt; sureties, F. Joost and George T Shaw, $8,000; cost, $8,300; signed Sept. 2; filed Sept. 11; 3-story frame; $1,000 framed; $1,000 first plastered; $1,500 plastered; $1,800 second coat of paint is on; $900 a cepted; $2,100, 35 days.

Scott and Vallejo. Owner, Stanley Forbes; architect, Fred E. Wilcox; contractor, Lord & Boynton; signed; Sept 4; filed Sept 5; cost, $4,775, to build; payments, $1,200 framed; $1,200 brown coated; $1,181 25 completed; $1,193-75, 35 days.

Steuart and Mission. Owner, J. O'Sullivan; architect. H. Geilfuss; contractors, Schutt & Krecker; cost, $4,383; signed Sept. 7; filed Sept. 13: excavation, brick and stonework; payments, $1,400 first-story joists are laid; $1,400 fire walls are topped out; $485 completed; $1,100, 35 days.

Sixth and Berry. Owners, Pacific Woodware and Cooperage Co.; architect, James E. Wolfe; contractor, L. D. Frichette; signed Oct. 1; filed Oct. 2; cost, $5,575; to build new, and raise and remove old buildings; payments, 75 per cent. as work progresses; balance, 35 days.

Second Ave., bet. Pt. Lobos Ave. and A street. Owner, Wm Ensbury; architect, Chas. J. I. Devlin; contractor, Thos. Elam; sureties, W. A. Meeker and Frank P. Doe, $1,000; signed, Aug. 21; filed, Oct. 1; cost, $1,620; 60 days, 1-story f ame; $250 framed; $565 roof complete; $400 completed; $405, 35 days.

Shotwell, and 21st. Owner, Wilhelmina H. Becker; architect, M. J. Walsh; contractor, R. O. Davis; signed Sept. 26; filed Oct. 1; cost, $3,950; to build; payments, $987.50, framed; $987.50, brown-coated: $987.50, completed: $987.50, 35 days.

Shotwell, near 14th. Owner, J. W. Stanley; architect, M J. Walsh: contractor, Ovid Brault; signed Sept. 28; filed Oct. 1; cost, $3,235; to build: payments, $808.75, framed: $808.75 brown-coated; $808.75, completed; $808.75, 35 d ys.

Twenty-first and Valencia. Owner, E. A. Schumacher; architect, Chas. I. Havens; contractor, C. E Dunshee, signed Oct. 3; filed Oct. 3; cost. $4,890; 2-story frame; payments. $900, enclosed; $900, brown-coated, etc.; $900, hard finished; $965, completed; $1,225, 35 days.

Tennessee near Butte Owner, David Brady; architect, M. J. Welsh; contractor, R. O. Davis; signed, Sept. 2: filed, Sept 7; cost, $1,257, additional story; payments, $314 35 framed; $314 25 brown mortared; $314 25 completed; $314, 25, 35 days.

Vallejo, near Buchanan. Owner. P. M Mawk; contractor, J. A. Owen; signed Aug. 12; filed Oct. 2; cost, $1,000 to grade a 50-vara lot; payments, 1-3 of total sum upon completion of 1-3 of the work; 1-3 upon completion of 2-3 of the work; balance on completion.

Vallejo and Webster. Owner, E. H. Moore; architect, Copeland & Pierce; contractor, Healing & Kretzel; sureties, John Murray and Jame Healing; signed, Aug 29; filed, Sept. 6; cost, $5,462, 100 days, two-story frame; payments, $6.000 brick work done; $9.000 framed; $1,000 brown coated; $700 white coated; $896 50 completed; $1 365 50, 35 days.

Vallejo, 158, near Polk. Owner, Thomas Y. Knipe; architect, B. E. Henriksen; contractor, R. R. Thornton; sureties; Harris & Jones, $1,500; signed, Sept. 3; filed, Sept. 6; cost, $6,000, two-story frame; payments, $1,125 rough plumbing done; $1,125 br wn co ted; $1,125 white coated; $1,125 varnishing completed; $1,500, 35 days.

Vallejo near Buchanan. Owner, F. W. Kern; architect, H. Geilfuss; contractor, Fred'd Wagner; signed September 18; filed September 23; cost, $1,208; brick work; payments, $450, framed; $458, chimneys topped out; $300, 35 days.

Vallejo and Buchanan. Owner, Cæsar Bertheau; architect, H Geilfuss; contractor, F. W. Ker ; sign d Sept 18; filed Sept. 21; cost $7,400. payments, $1,110, frame!; $1,110 floors laid; $1,110, brown-coated. $1,110, white-coated; $1,110, ready for painting; $1,850, 35 days.

Vallejo and Sansome. Owner, Ann Price; architect, John T. Kidd; contractor, C. Peterson; sureties, Frank P. Latson and A. W. Starbird; cost, $2,580; signed Sept 11; filed Sept. 13; 2-story frame; payments, $600 framed; $600 brown-coated; $400 white-coated; $335 complete l; $645, 35 days.

Valencia and 25th. Owner, O. F. Von Rhein; architect, H. Geilfuss; contractor, F. W. Kern; signed, Sept. 3; filed, 4; cost, $6,240, 30 days, alterations; payments, $936 framed; $936 enclosed; $936 brown coated; $936 white coated; $936 completed; $1,560, 35 days.

Washington and Broderick. Owner, Julia R. Eastman, architect, John T. Kidd; contractor, C. Peterson; sureties, Starbird & Goldstone and F. P. Latson; signed, Sept. 4; filed, Sept. 6; cost, $3,550, 100 days; payments, $665 framed; $700 brown coated; $600 white co ted; $697 c mpleted; $888, 35 days.

Waller and Broderick. Owner. W. A. Von der Nienberg; architect, M. J. Welch; contractor, J. F. Logan; signed Sept. 14; filed Sept. 18; cost, $4,026; to build; payments, $1,000 framed; $1,000 brown mortar is on; $1,026, completed; $1,000, 35 days.

Washington and Baker. Owner, Genevieve Bancroft et al; architect, Sam'l Newsom; contractor, W. H. Wickersham; sureties, C. S. Holmes and Frank P. Latson, $4,000; signed Sept. 14; filed Sept. 19; cost, $3,620; 3-story frame; payments, 75 per cent. on the 16th of each month as work progresses; balance, 35 days.

COUNTRY BUILDING NEWS.

(Special to this Journal.)

OAKLAND AND VICINITY.

Lot 4. Levy W. Brk. Tp. Owner, Miranda Kimball, architect, C. K. Hill & Co.; contractor, Norman R. Turner; sureties, Wood and M. L. Broadwell, $ 1,250; signed, September 30; filed September 30; cost, $2,615; December 15, 1889, 2-story frame; payments, 75 per cent. as work progresses every two weeks; remaining 25 per cent. 35 days after completion.

Pacific avenue, between Oak and Walnut street, Alameda. Owner, Mrs. Henrietta Brand; architect, Chas. S. Shaner; contractor, D. S. Brehaut and J. C. Diamond; sureties, Huber Crowe, J. R. Bigles and J. H. Cory, $3,00; signed Oct. 5th; 105 days; payments $1,275 sheathing on; $1,275, roof on; $1,275 brown mortar on; $1,275, painted; $1,700, 35 days.

Owner, William H. McDonald; contractor, Oakland Iron Works; signed October, 5; filed October 5; cost, $3,500; November 1, '89; foundry and machine shop and water tank; $2,000; completed; $1,500, 35 days.

Lot 10, Block I, 50 Associates Tract, East Oakland; owner, Samuel Rawson; architect, A. R. Denke; contractor, J. H. Styles; signed, September 17th; filed, September 20th, cost, $2,400; December 31, '89; cottage; payments, $600, framed; $600, brown mortar on; $600, completed; $600, 35 days.

Southwest corner of Tenth and Chestnut streets, Oakland; owner, Charles T. Rodolph; architect, H. H. Adams; contractor, H. H. Adams; signed, September 18th; filed, September 20th; cost, $2,900; December 18, '89; two-story frame; payments, $580, roof on; $580, brown mortar on; $580, white mortar , on $580; completed; $580, 35 days.

Park street, Alameda, owner, George L. Lewis; architect, A. R. Denke; contractor, J. H Young; signed, September 19th; filed, September 21st; cost, $3,675; December 24, '88, two-story frame; payments, $500, framed; $400, shingled; $900, two coats of plaster on; $900, finished; $975, 35 days.

Lot 5, Peralta Park, Oakland Township, owner; Miss Anita Fallon; architect, Fred E. Wilcox, contractors, Lord & Boynton; signed, September 17th; filed, September 21st; cost, 3,500; two-story frame; payments, $875, frame; $875, first coat of mortar on; $875, completed; $875, 35 days.

Lot 5, Block B, 50 Asso. W., East Oakland; owner. John Nelson; architect, Fred E. Wilcox; contractor, J. A. Eastman; signed, September 17th; filed, September 23d; cost, $1,375; 50 days; frame; payments, $343, closed in; $343, brown mortar on; $343, white coat on; $346, 25 days.

Lot 17, Block K, Taylor and Page Tract, Alameda; owner, J. A. Remmel, architect; Fred E. Wilcox; contractor, George A. Benseman; signed, September 21st; filed September 2 nd, cost, $1,650; payments, $550 brown mortar on; $550 completed; $550, 35 days.

Railroad avenue, Alameda; owner, Mrs. Mary White; architect, G. A. Benseman; contractor, G. A. Benseman; signed, September 4th. filed, September 23d; cost, $1,600; 75 days payments; $400, frame up: $400, brown mortar on; $400, completed; $400, 35 days.

Lots 8, 9, 10, Block M, Kennedy, W. Knowles and Potter Subdivisions; owner, Mrs. Jane and L. J. Rector; architect, G. A. Benseman; contractor, J. A. Eastman, signed, September 23d; filed, September 23d; cost, $1,400; November 9, '89, one-story frame; payments, $350, enclosed; $350, brown mortar on; $350 completed; $350, 35 days.

Twenty-third avenue, between East Fifteenth and East Sixteenth streets, East Oakland; owner, Alexander McBain; architect, G. A. Benseman; contractor, J. A. Eastman; signed, September 23d; cost, $2,050; November 15, '89; payments, $1,500, completed; $515, 35 days.

Clinton avenue, near Grand street, Alameda; owner, A. Dalton Harrison; architect, A. W. Pattiani & Co.; contractor, A. W. Pattiani & Co.; signed, September 17th; filed, September 27th; cost, $2,060; payments, $550, chimney built; $500; brown mortar on; $495, completed; $515, 35 days.

Bancroft Way, near Anderson street, Berkeley; owner, M. E. Rickard; architect, A. W. Pattiani & Co.; contractor, A. W. Pattiani & Co.; signed, September 21st; filed, September 27th; cost, $3,267; payments, $900, chimney built; $900, brown mortar on; $650, completed; $817, 35 days.

Eighth avenue, in Block 119, East Oakland; owner, Henry Saxtorph; architect, T. R. Goth; contractors, B. D. Thurston and T. R. Goth; signed, September 30th; filed, September 27th; cost, $3,132; payments, December 19, '89, $783, roof on; $783, brown mortar on; $783, white mortar on; $783, completed; $783, 35 days.

Corner Main and C streets, Haywards; owner, Native Sons' Hall Association; architects, Shea & Shea; contractor, John A. Hiar; sureties, D. Pestdorf and Fred Fallen; signed September 18th; filed September 21st; cost, 13,033; four months; payments, $1,200, first story joists in place; $1,144, frame up; $2,144, rustic on; $2,144, brown mortar on; $2,146, completed; $3,260, 35 days.

Schilber, between Railroad avenue and Pacific avenues, Alameda; owner, A. Roundy; architect, Charles S. Shaner; contractor, G. A. Benseman; Sureties, ————; Signed, September 16th, Filed; September 18th; cost, $2,437; 105 days; three cottages; payments, $1,359 25, sheating on; $1,359 25, brown mortar on; $1,359 25, completed; $1,359 25, 36 days.

Southwest corner of Eleventh and Castro streets, Oakland; owner, L. H. Long; architect, Salsfield & Kohlberg; contractors, Marius Jonas and Wolf Drossener; sureties, John W. Armstrong, $4,000; signed, September 18th; filed, September 19th; cost, $9,496; 110 days; $1,000 framed; $1,500 floors laid; $1,500 brown mortar on; $1,322 doors hung; $1,500 completed; $2,274, 35 days.

Park street, Alameda; owner, Wm. McFarland Greer; architect, A. R. Denke; contractor, A. R. Denke; signed, September 11th; filed, September 20th; cost, $2,308; November 10, '89; one-story frame. $600; enclosed, $600; plastered, $508; finished, $600; 35 days.

Claremont avenue; owner, John Hoppe; architect, Chas. Mau; contractor, W. N. Concannon; cost, $6.150; signed, August 28th; filed September 2d; 125 days; payments—$1,537.50, ½ material furnished and ¼ work done; $2,537.50, ¾ material furnished and ¾ work done; $3,537.50, completed, $4,537.50, 35 days.

Lots 13 and 14, Block "C," Berkeley Homestead; owner, Jeanie S. Campbell; architects, A. W. Pattiani & Co.; contractors, A. W. Pattiani & Co.; cost, $2,850; signed, August 29th; filed, September 3d; 60 days; one-story frame; payments $800, chimney built; $700, brown mortar on; $635, completed; $715, 35 days.

Dwight Way, Berkeley; owner, Jos. M. McNamara; architect, George A. Embury; contractor, George A. Embury; cost, $1,150; signed, September 4th; filed, September 4th; September 3, '89; payments—75 per cent. as work progresses, viz.: 25 per cent., frame up; 25 per cent., inclosed; 25 per cent., completed; 25 per cent., 53 days.

Sixteenth street, near Telegraph avenue; owner, Edward A. Bushnell; architect, Chas. Mau; contractor, Wm. McDonald; cost, $2,630; signed, September 4th; filed, September 10th; November 1, 1889; one stoty cottage; payments—$657.50, ¼ material furnished and ¼ work done; $657.50, ¾ material furnished and ¾ work done; $657.50, completed; $657.50, 35 days.

Railroad avenue, between Walnut and Willow; owner, Chas. Lauberheimer; architect, Fred P. Fischer; contractors, D. Straub & Son; cost, $3,320; signed, September 5th; filed, September 10th; payments—$900, frame up; $900, brown mortar on; $690, plastered; $830, completed.

Berkeley; owners, J. F. and C. M. Luttrell; architect, Ira L. Boynton; contractors, Lord & Boynton; cost, $2,000; signed, August 28th; filed, September 2d; December 1, 1889; payments—$500, frame up; $500, brown mortar on; $500, completed; $500, 35 days.

Butler avenue, Klinknerville Tract; owner, C. A. Klinkner; architects, John J. & Thomas D. Newsom; contractor, Thos. H. Bassett; cost, $2,070; signed, September 5th; filed, September 10th; payments—$500, frame up; $500, framed; $500, completed; $570, 35 days.

Dublin; owner, John Green; architect, John J. Clark; contractor, Wm. Dahl; sureties, N. McConaghy, $4,000; cost, $4,341; signed, September 5th; filed, September 10th; three months; payments—$1,075, inclosed; $1,075, brown mortar on; $1,075, completed; $1,116, 35 days.

Hirschfield Tract; owner, J. A. Remmel; architect, John J. Boyle; contractor, John J. Boyle; sureties, H. M. Weed and Alex. Johnson, $1,000; cost, $1,650; signed, August 19th; filed, September 12th; January 1, 1889; payments—$550, brown coated; $550, completed; $550, 35 days.

Block "B," Mastick Prop.; owner, Mrs. Diederike Kuh; architect and contractor, H. M. Allen; cost, $1,500; signed, September 12th; filed, September 12th; 100 days; payments—$500, building inclosed; $1,000 on March 1, 1890.

Bancroft Way, near Audubon B.; owner, Edward J. Wickson; architects, Schulze & Meeker; contractor, Robert Smilie; sureties, Alex. Campbell and P. H. McGrew, $1,850; cost, $5,550; signed, September 6th; filed, September 14th; December 31, 1889; payments—$650, frame up; $1,170, ready for lathing; $1,171, first coat of mortar on; $1,171, completed; $1,388, 35 days.

Fourth avenue, near Eleventh street; owner, Levens N. Cobbledick; architects, John J. and T. D. Newsom; contractor, W. N. Concannon; cost, $1,865; signed, August 4th; filed, August 26th; October 20, 1889; one story frame; payments—$466.25, frame up; $466.25, brown mortar on; $466.25, completed; $466.25, 35 days.

Ward avenue, San Leandro; owner, A. D. Cary; architect, Chas, Mau; contractor, Myron H. Hackett; cost, $3.190; signed; August 26th; filed. August 26th; November 30, 1889; payments, $797.30, ¼ material furnished and and ¼ work done; $797.50, ¾ material furnished and ¾ work done; $797.20, 35 days after completion.

King's avenue, Alameda; owner, James R. Lynch; architect, George A. Bodwell; contractor, W. G. Reese; cost, $2,788; signed, August 27th; filed, August 27th; payments—$697, frame up; $697, plaster on; $697, finished; $697, 35 days.

Block A, Adeline tract, O. Tp; owner, W. H Goddard; architect and contractor, W. R. Battan; cost, $1600; signed August 27; filed August 27; one-story cottage; $400 frame up; $400 brown mortared; $400 completed; $400, 35 days.

East Twenty-first street and Twelfth avenue; owner, S. H. Nourse; architects, J. J. and T. D. Newsom; contractor, Thos. H. Bassett; surety; M. L. Broadwell, $1500; cost, $3500; signed August 27; filed August 30; December 1, 1889; payments, $500 frame up; $500 chimney built; $500 plumbing done; $500 plastering done; $624 completed; $876, 35 days.

Block "C," Patterson Hd., Berkeley Tp.; owner, C. Thompson and W. S. Thompson; architect, J. D. Sprague; contractor, J. D. Sprague; cost, $3,500; signed, August 27; filed August 29; two dwelling houses; payments, 1-3, ready for plastering, 1-3, plastering completed, 1-3, completed and accepted.

LOS GATOS.

Queen Anne residence for C. A. Bronaugh of Los Gatos. C. F. Scammon is the contractor and the cost will he about $2,000.

LOS ANGELES.

Residence. E. F. C. Klokke, owner; architect, J. C. Newsom; cost, $8,000.

Brick building. C. Raphael, owner; architect, R. B. Young; cost, $18,000.

Residences. N. &. C. Jacoby, owners; A. M. Edelman, architect; $8,500 each.

Three-story brick. Owner, E. McLaughlin; architect, F. J. Capitam.

Brick building. Owner, Martin Anderson, architect, ———; cost, $22,506.

Residence. Owner, L. J. Rose; architects, Curlett, Eisen & Cuthbertson; cost, $60,000.

Lodging house. A. M. Hough, owner; architects, Doane & Slocum; cost, $17,000.

Zahn Block. Plans by W. O. Merithew; probable cost, $150,000.

Brick building. Owner, Martin Anderson; architect, J. Lyfert, cost, $80,000.

Residence. J. Schlessinger, owner; A. M. Edelman, arcbitect; cost, $4,000.

Residence. C. H. Sessions, owner; architect, J. C. Newsom; cost, $8,000.

Residence. M. Hughes, owner; Curlett, Eisen & Cuthbertson, architects; cost, $8,000.

Residence. W. H. Rodes, owner; Doane & Slocum, architects; cost, $3,000.

Residence. Owner, F. Bates; architects, Doane & Slocum. Also warehouse; Baker & Myers; cost, $8,000.

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Residence. M. W. Connor, owner; architect, J. J. Newsom; cost, $25,000. Same architect—residence; E. Hildreth; owner, cost, $14,000. M. Ruddick, owner; cost, $12,000. Brick house; E. Chauvin, owner; cost, $18,000. Geo. Shatte, owner; cost; $30,000. J. Brian; cost of additions, $26,000.

Miscellaneous.—Congregational Church; cost, $13,500. A. M. Rawson; Brick building; cost, $10,000. Lutheran Church; cost, $12,000. Residence; A. Wartz; cost, $3,000. Cottage; E. A. Miller; $5,000. Cottage; E. C. Hodgman; cost, $3,000. Brick stores; S. Hellman, owner; cost, $7,700. Brick building; Maria Howes; cost, $10,000. G. Kneckt; residence; cost, $6,260. H. Lindley; brick dwelling; $5,750. G. C. Perrett; brick building; cost, $15,500. Franklin Block; cost, $19,900. Presbyterian Church, to cost $5,000. Orphan asylum; cost, $125,000. W. H. Joy; block; $8,000.

Courthouse. Architects, Curlett, Eisen & Cuthbertson; cost, $410,000. Same architects have Garvey Block; cost, $65,000. Residence for Wm. Curlett; $8,000, and Cable Co.'s engine-house, finished; cost, $195,000.

LORIN.

Mark Ashley, residence, Ashbury avenue. On Mason street, eight-room cottage. Pattiani & Co., three cottages on Newbury Tract.

NEWBURY.

L. E. White, four frame dwellings on Ward street.

SAN LUIS OBISPO.

Residence, near Oso Flaco. Owner, Mr. Fox; contractor, Smith.

PASO ROBLES.

Two warehouses—one by the Southern Pacific Mill Co., and the other by the Grangers. Also a new hotel.

WARM SPRINGS.

J. L. Beard, additions to winery. S. Peaison, residence, soon to be finished.

LIVERMORE.

A. Weymouth, brick work finished, two-story frame on Chestnut street.

AGNEWS.

R. Summers, contractor with trustees Agnews Insane Asylum, to erect administration building and ward building No. 3.

TEMESCAL.

Block of stores on Telegraph avenue, terminus of car stables.

STOCKTON.

Central M. E. Church; contractor, Robt. Powell; cost, $50,120.

PLEASANTON.

Mr. S. E. Jackson is building a new house on his recently-purchased property of A. W. Brodt.

SANTA CLARA.

John Dibble has secured the contract for putting the roofing on the large winery at Lawrence. It will require sixty-three sheets of tin, being 101x63 feet.

SAN JOSE.

Two cottages on Fox avenue for Mrs. R. G. Woods; architect, J. O. McKee; cost, $1500.

Two-story residence on Second near Empire street; architect, J. O. McKee; contractors, Irish & West; cost, $4000.

Modern cottage for Mrs. Cordell on Delmas avenue; contractor, Ed Basse; architect, J. O. McKee; cost, $1400.

Modern cottage on Seventh street for S. N. Johnston; architect, J. O. McKee; cost, $2000.

Two-story residence for Professor Allen near Wrights station; day's work; architect, J. O. Mckee; cost, $2500,

Cottage for X. E. Burns on San Francisco road; architect, J. O. McKee; cost, $2000.

Cottage on Ninth and San Carlos streets for James Farney; contractor, P. R. Wells; architect, G. W. Page; cost, $3000.

Cottage, corner of Sixteenth and St. John streets, for R. D. Pease; W. S. Boyles, contractor: J. O. McKee, architect; cost, $3,500.

Livery stable for M. M. Tinkham on Bassett street; J. O. McKee, architect; Mr. Kelsey, contractor; cost, $4,000.

Emanuel Baptist Church, corner of East and Crandall streets; H. T. Hite, architect and contro; cost, $1,700.

Cottage for E. B. Saunders on Cottage Grove Tract; cost, $1,200.

Cottage for S. L. Nugent on Cottage Grove Tract; cost, $1,500.

Fifty modern cottages on Cottage Grove Tract; I. G. Hazzard contractor and architect; average cost, $1,500.

Cottage for Jay K. Smith on Prevost street; I. G. Hazzard architect and contractor; cost, $1,300.

Two-story cottage on the Stevens' Creek road for S. A. Mattson; J. O. McKee architect; H. Kaler contractor; cost, $30 0.

Two-story residence for Ed Younger on North First street; B. H. Vincent architect and contractor; cost, $3500.

The Archer building on Second, near Santa Clara street; R. M. Summers contractor; Jacob Lenzen & Son architects; cost, $20,000.

The New Franklin Engine House; Theodore Lenzen architect; Mabury & Phillips contractors; cost, $7000

Two-story residence for W. W. Collins on Second street; J. M. Ware contractor and architect; cost, $3700.

Modern cottage on William, west of Market street; J. S. Wheeler architect and contractor; cost, $1600.

Cottage on South Eleventh street, near San Carlos street; J. H. Lenzen & Son architects; J. E. Forgrave contractor; cost, $1800.

Ryland building on South First street; J. Lenzen & Son architects; R. Summers contractor; cost, $40,000.

Bank of Hollister building, in Hollister; J. Lenzen & Son architects; Jacob Dorne contractor; cost, $20,000.

Cottage for Mr. Neale on South Tenth street; Frank Davis contractor; mill plans; cost, $2200.

Cottage for J. E. Harris on Thirteenth, near St. James street; E. A. Van Dalsem contractor; mill plans; cost, $1500.

Cottage for Chan Chan on San Fernando near River street; A. C. Bates contractor; mill plans; cost, $1300.

Two-story residence on North Second street for Dr. Pratt; Irish & West contractors; J. O. McKee architect; cost, $4000.

Cottage for J. Colombet on Sixth street near St. John; contractors, Talbot & Scherracke; architect, J. O. McKee; cost, $3000.

Brick building for C. S. Crydenwise on Fountain alley; H. Clifton contractor; J. O. McKee architect; cost, $5500.

Cottage on Second street, near Hensely avenue for W. Judah; day's work; J. O. McKee, architect; cost, $2800

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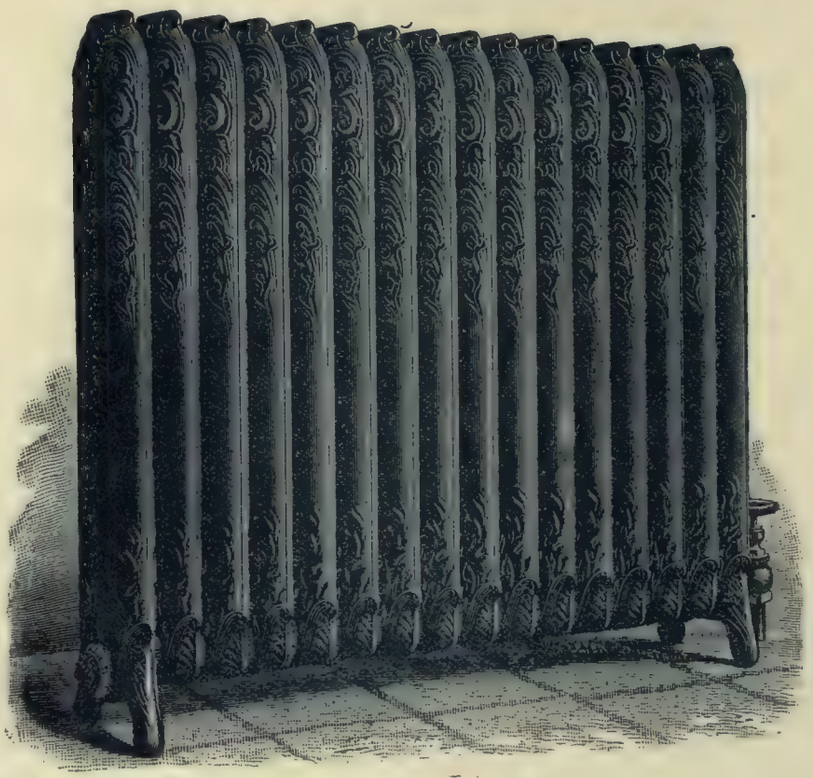

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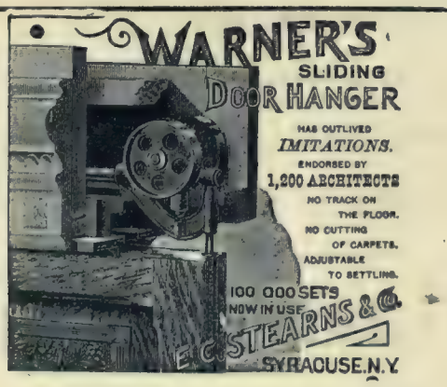

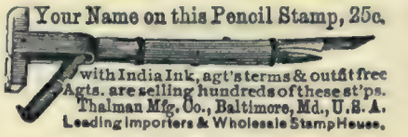
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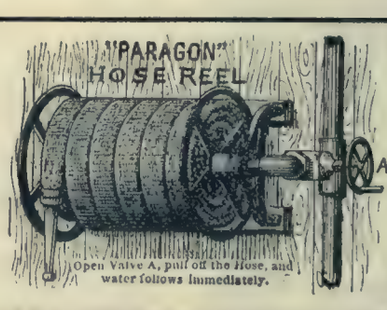

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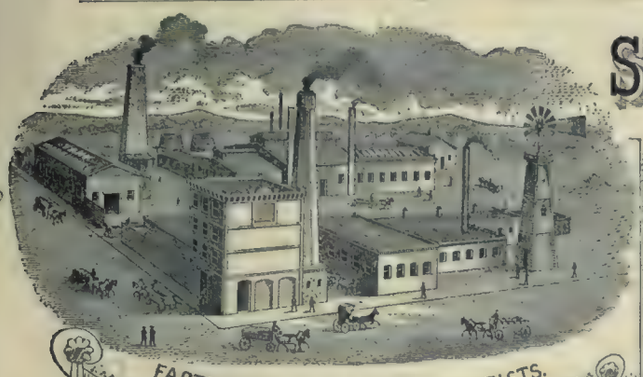

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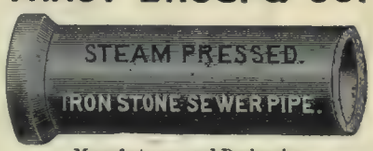

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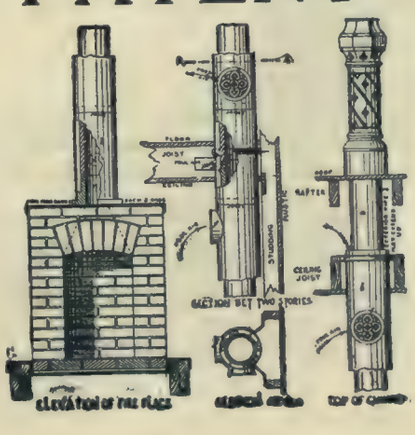

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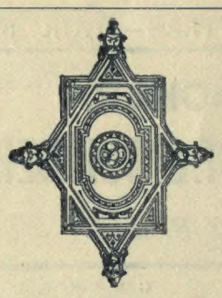

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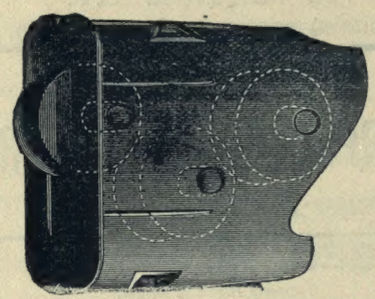

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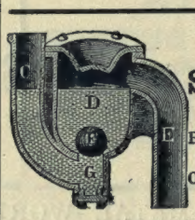

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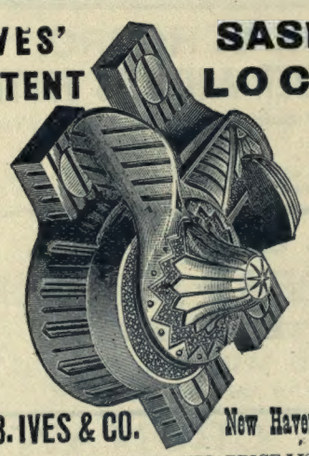

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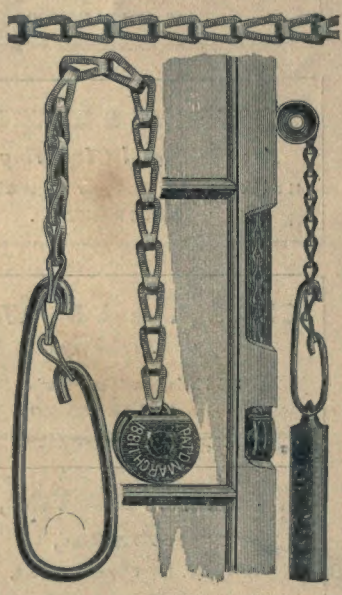

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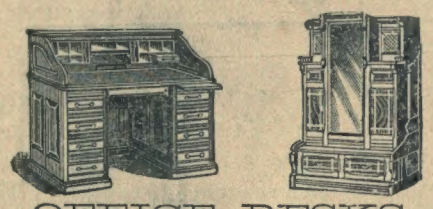

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